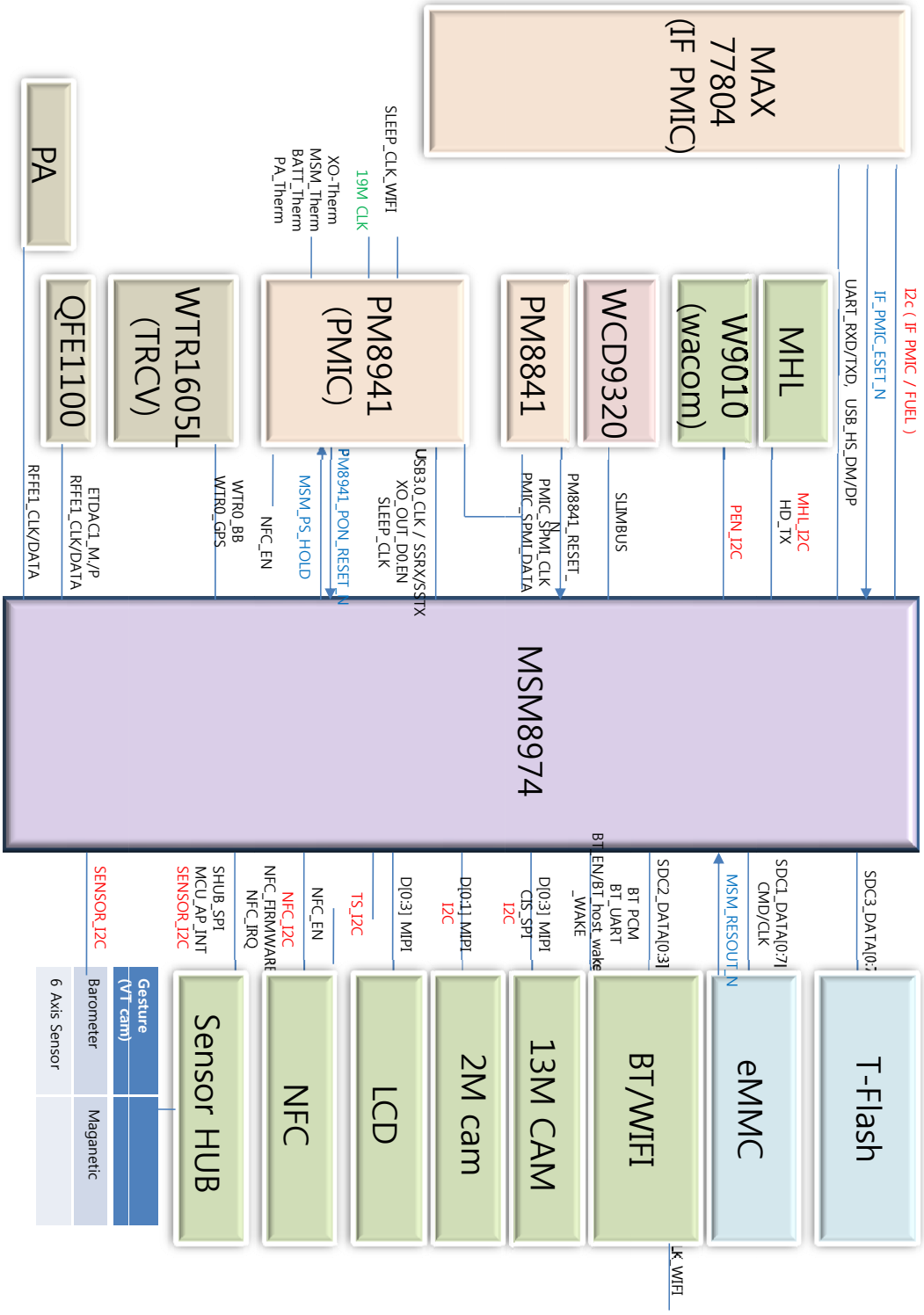
8. Level 3 Repair

8-1. Block Diagram



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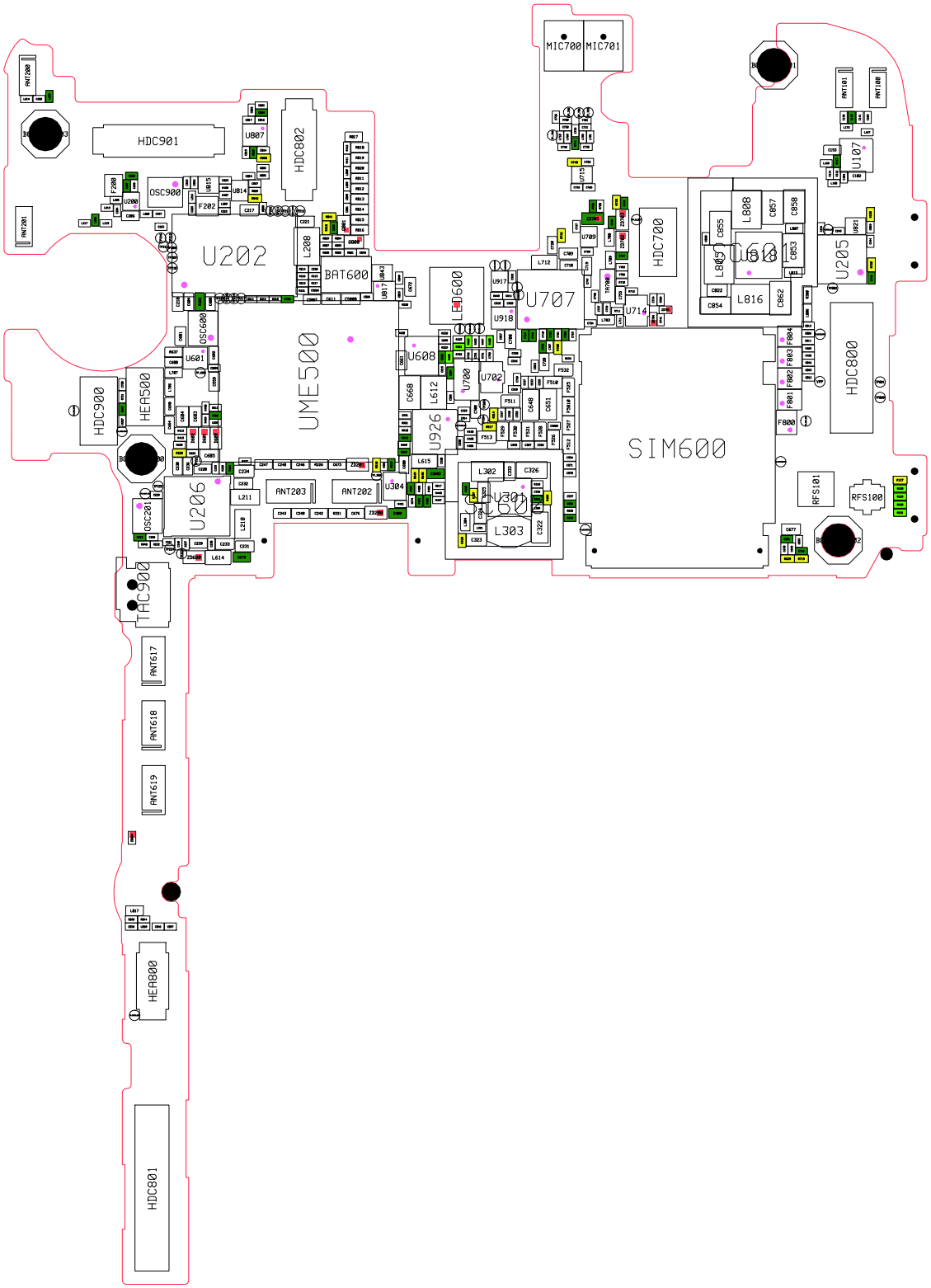
8-2. PCB Diagrams

8-2-1. Main PCB Top



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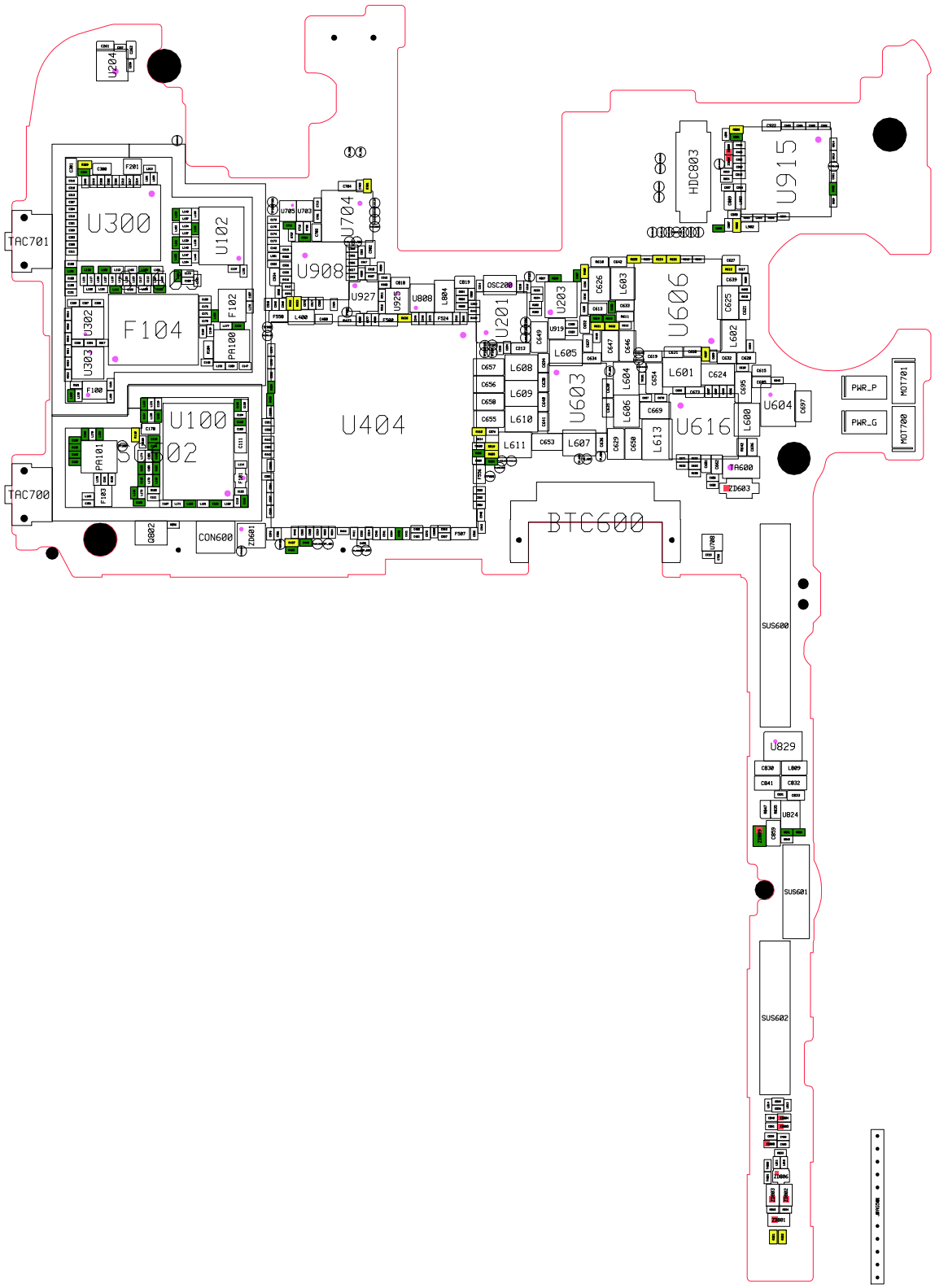
8-2-2. Bottom



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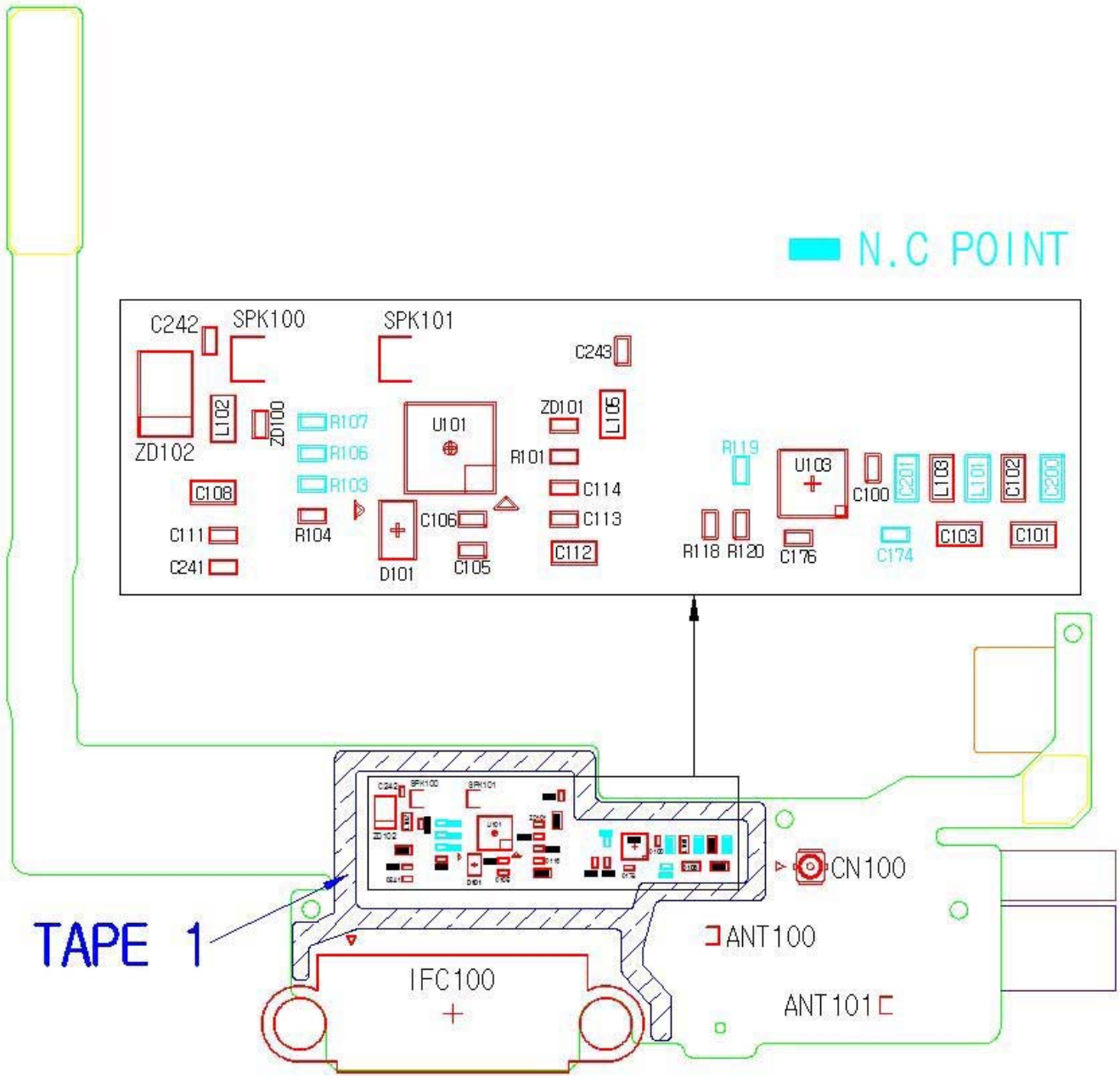
8-2-3. Sub PCB Top



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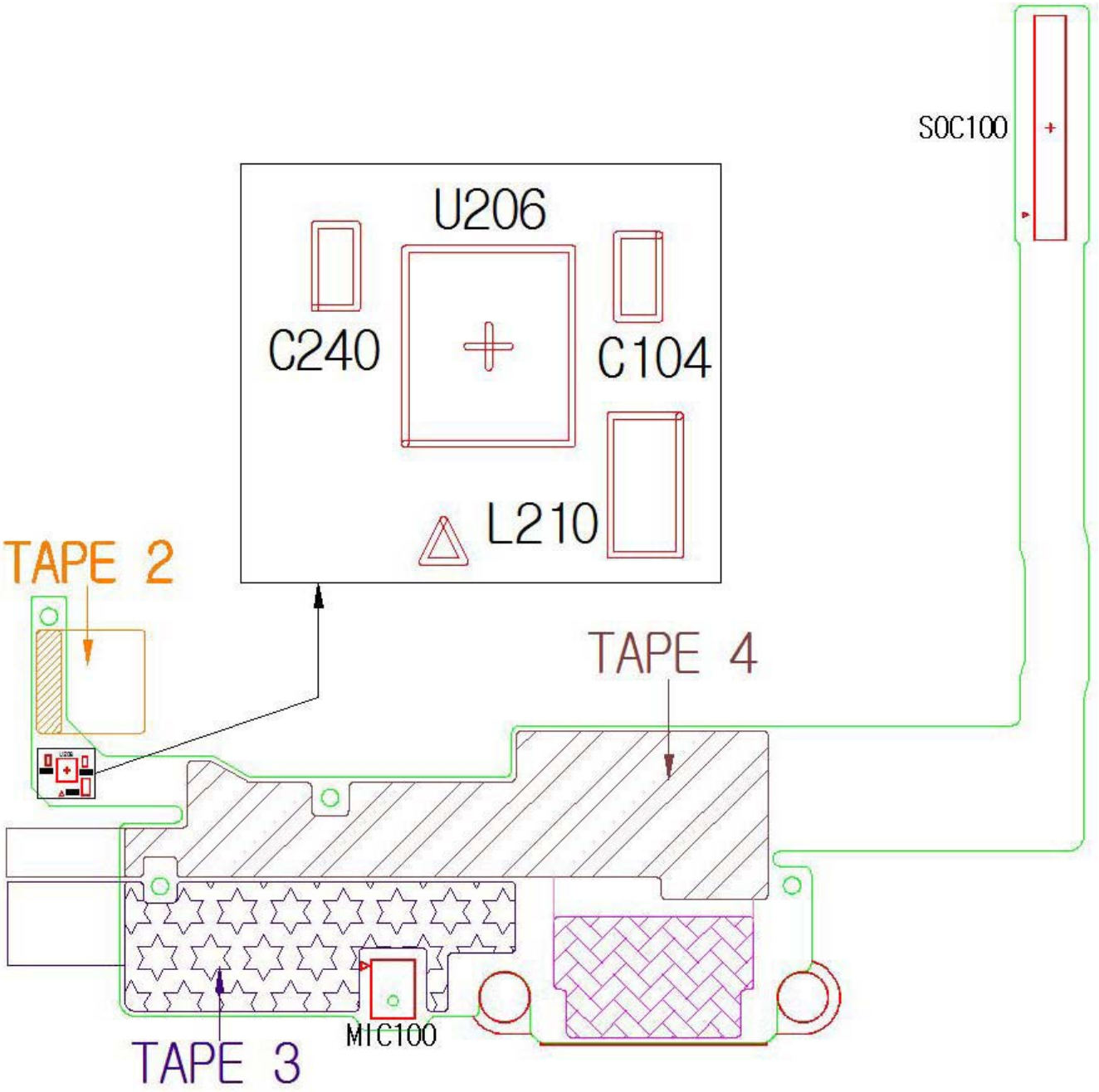
8-2-4. Sub PCB Bottom



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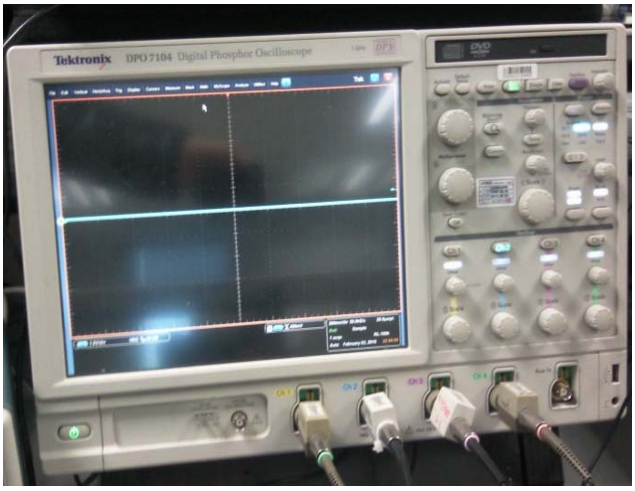
8-3. Flow Chart of Troubleshooting

Equipments

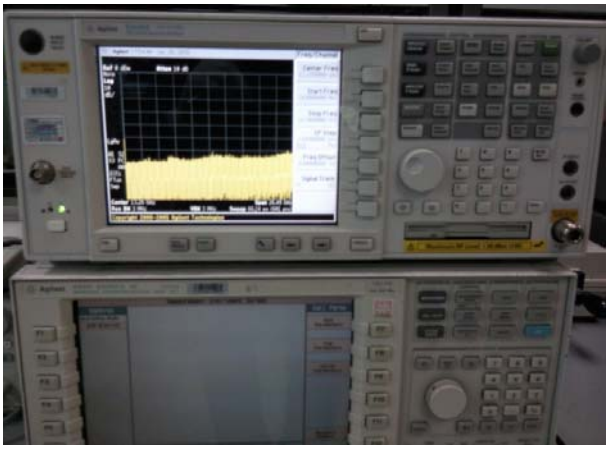


↑ Oscilloscope

↑ Digital Multimeter

↑ Power Supply

↑ + driver, ESD Safe Tweezer



↑ 8960 & Spectrum Analyzer

↑ Soldering iron

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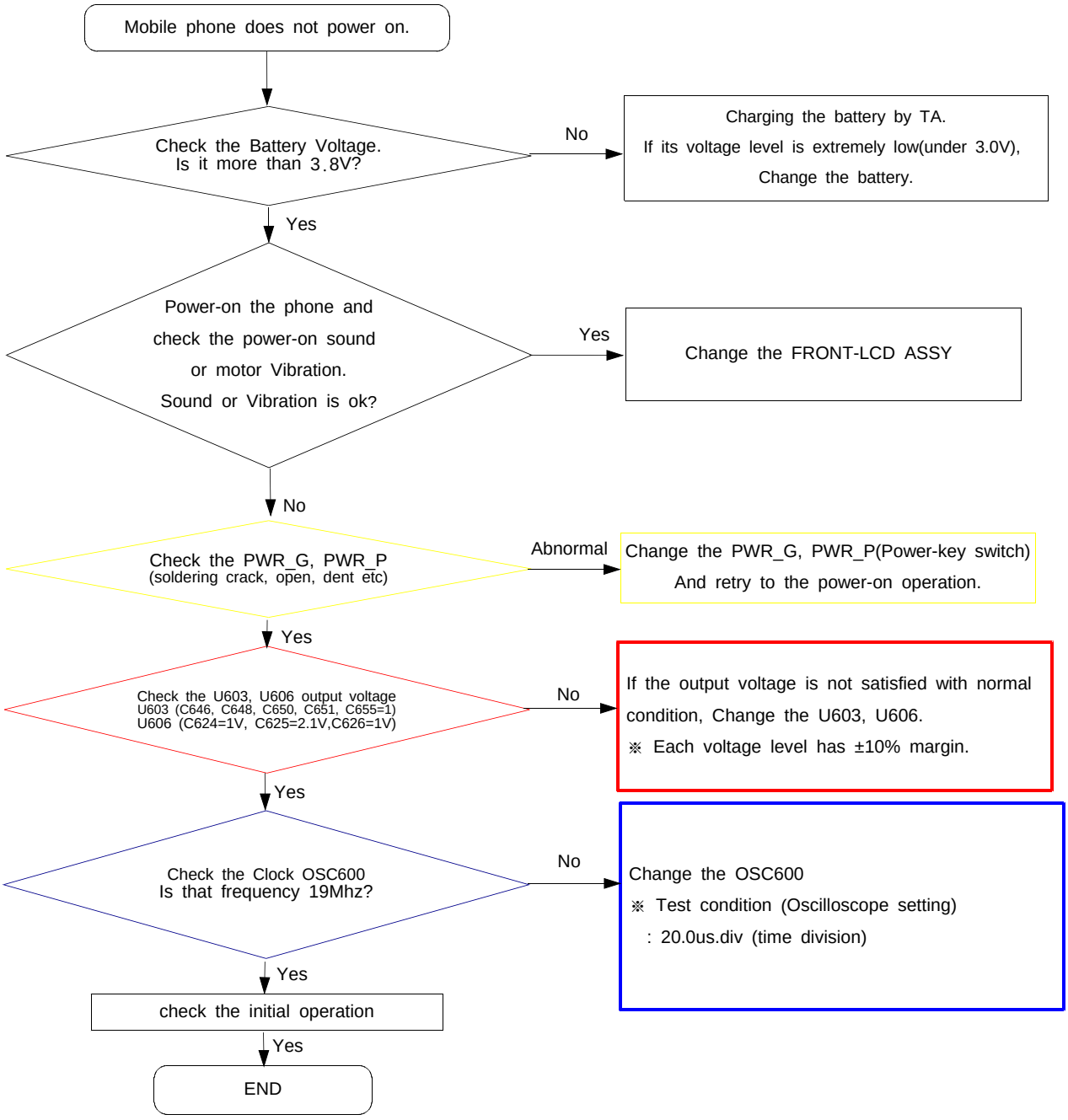
8-3-1. Power On



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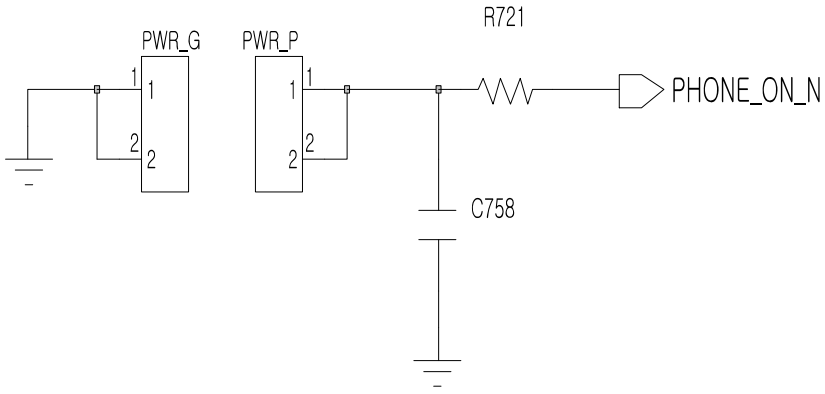
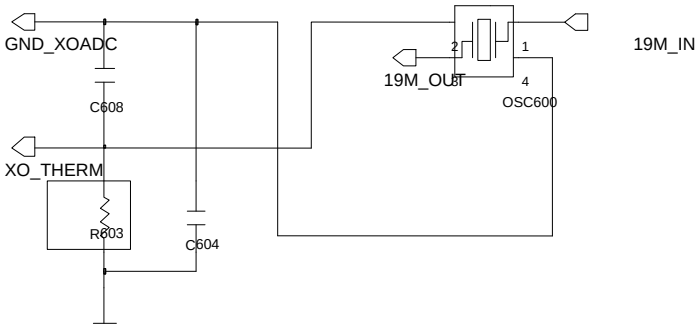
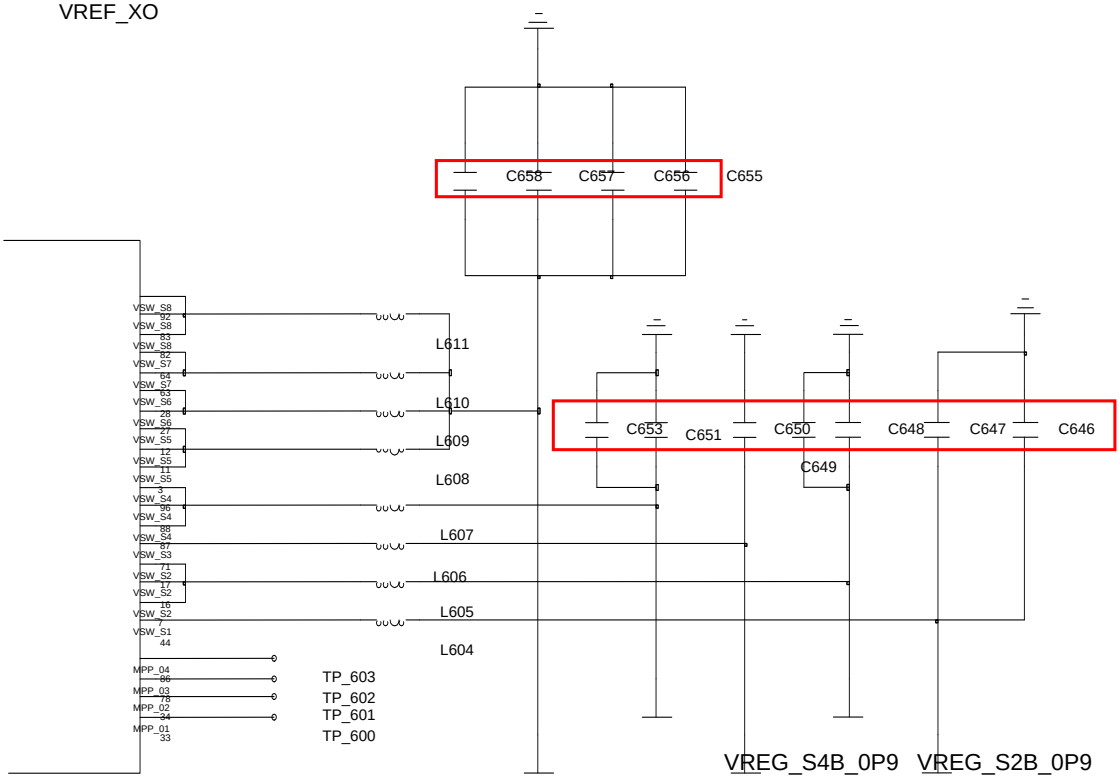




VREF_XO



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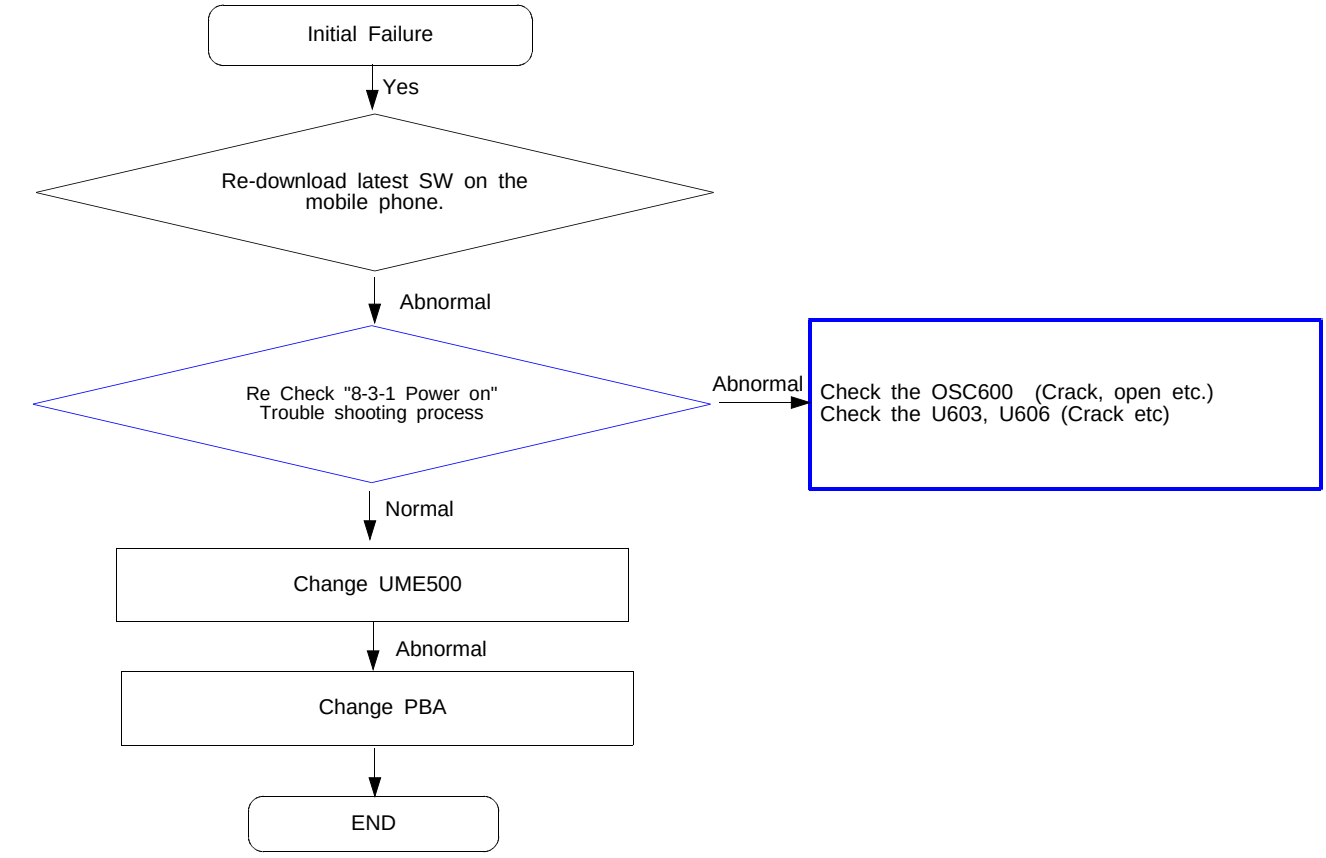
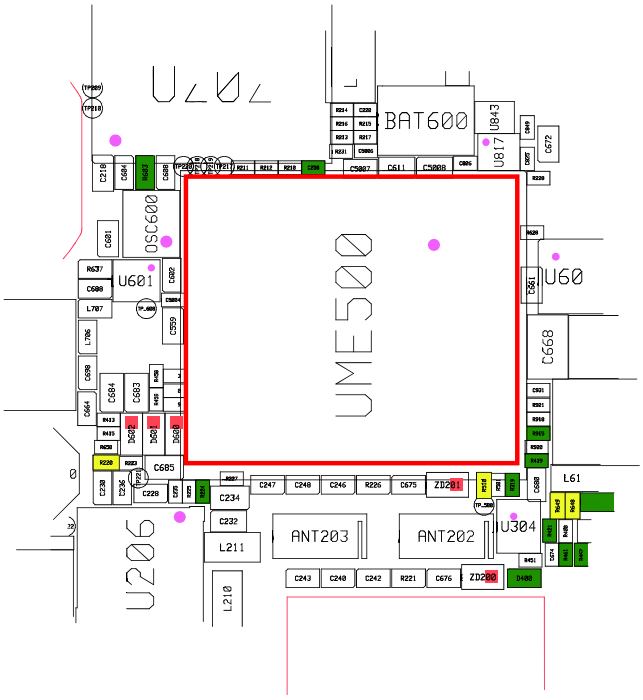
8-3-2. Initial





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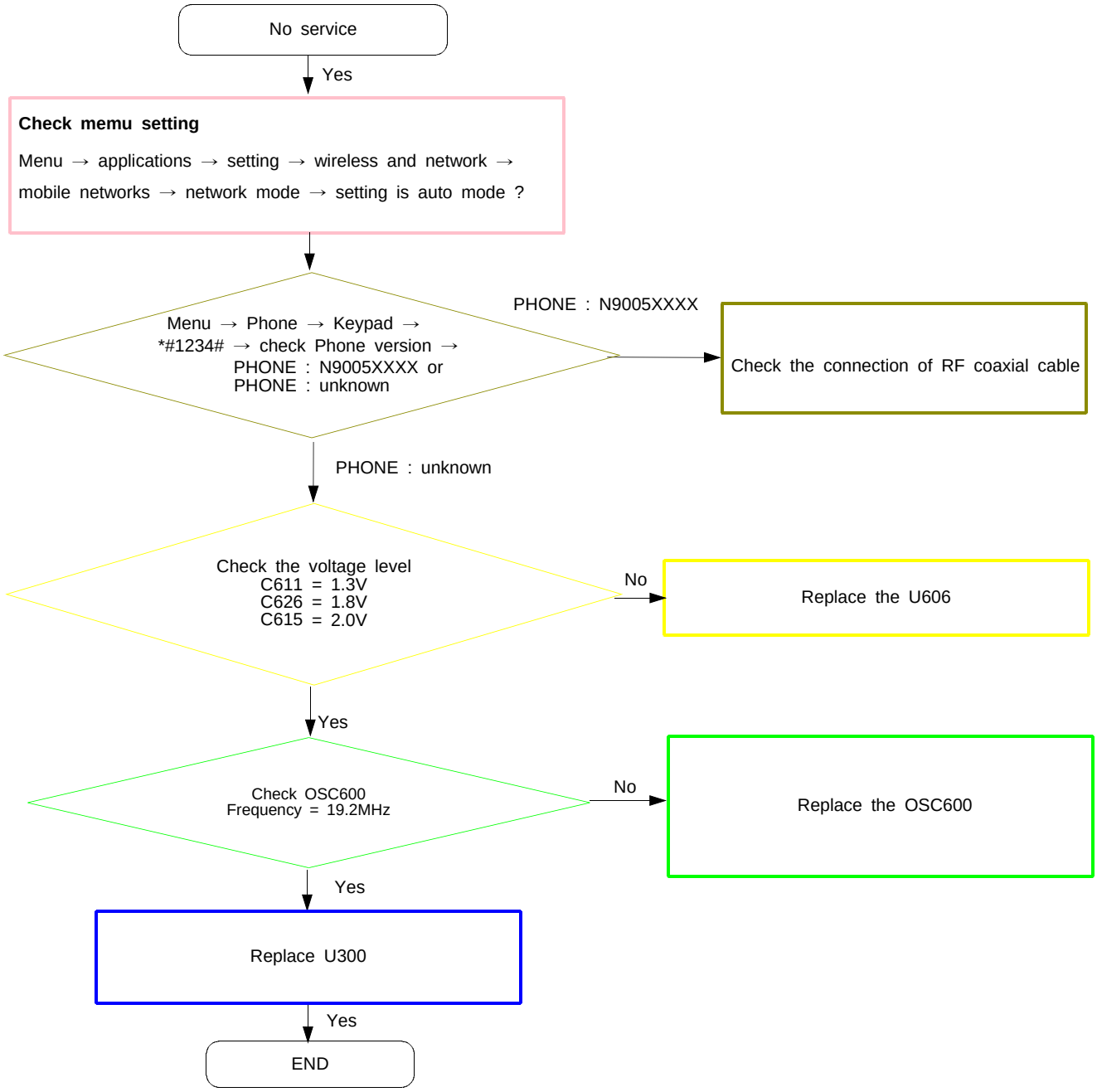
8-3-3. No Service


No service
Yes
Check memu setting
Menu → applications → setting → wireless and network → mobile networks → network mode → setting is auto mode ?
Menu → Phone → Keypad → *#1234# → check Phone version → PHONE : N9005XXXX or PHONE : unknown
PHONE : N9005XXXX
Check the connection of RF coaxial cable
PHONE : unknown
Check the voltage level
C611 = 1.3V
C626 = 1.8V
C615 = 2.0V
No
Replace the U606
Yes
Check OSC600
Frequency = 19.2MHz
No
Replace the OSC600
Yes
Replace U300
Yes
END

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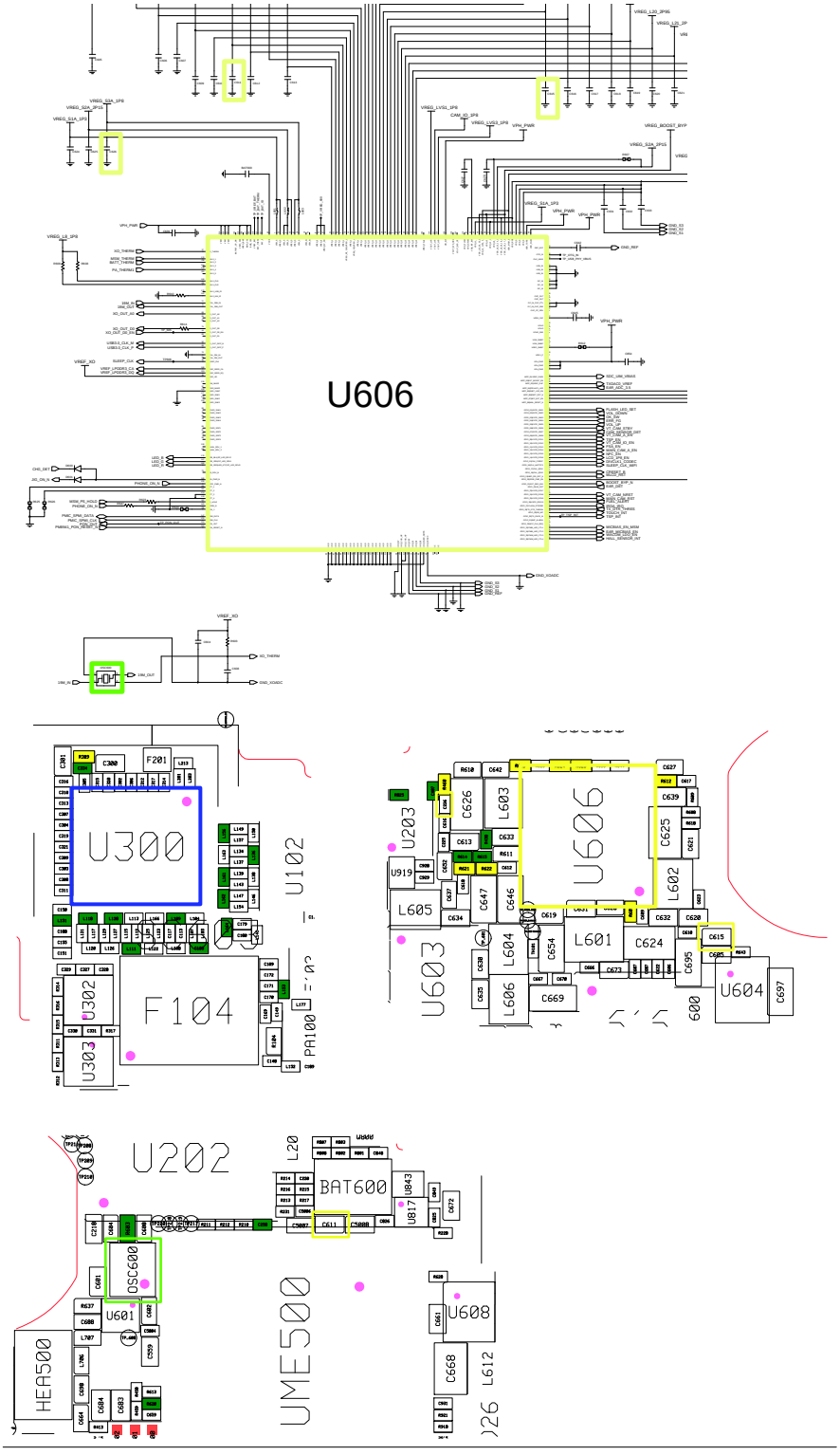

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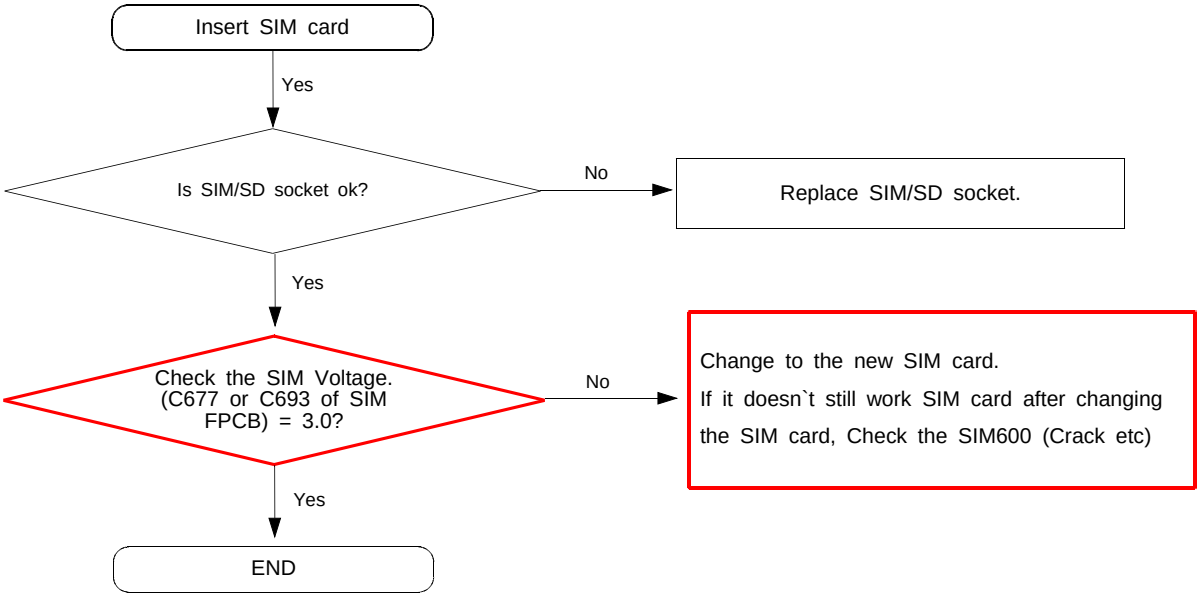
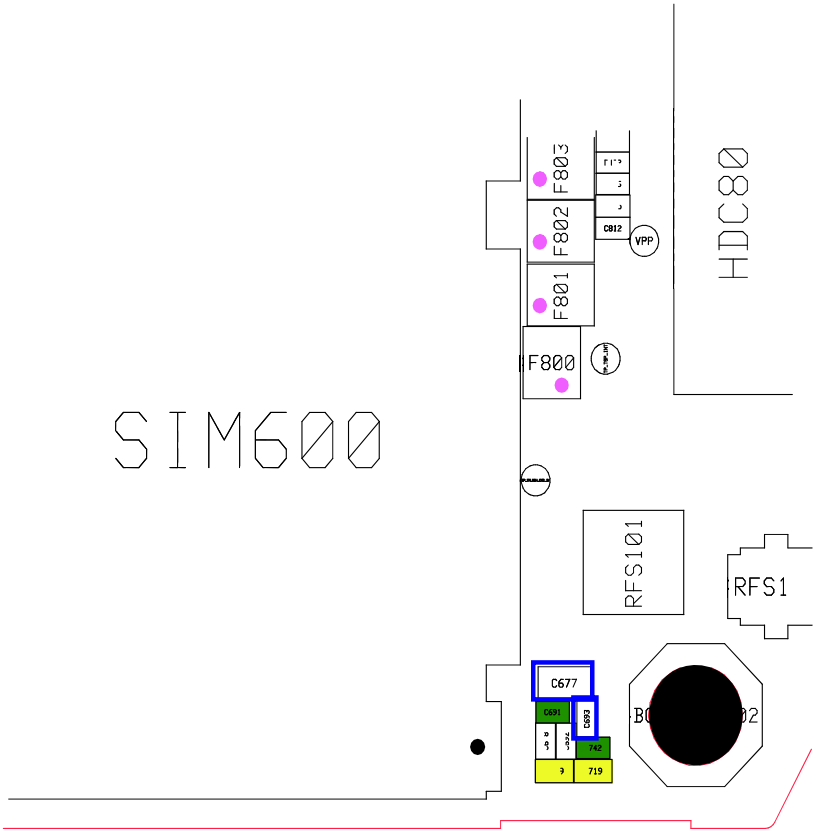
8-3-4. Sim Part





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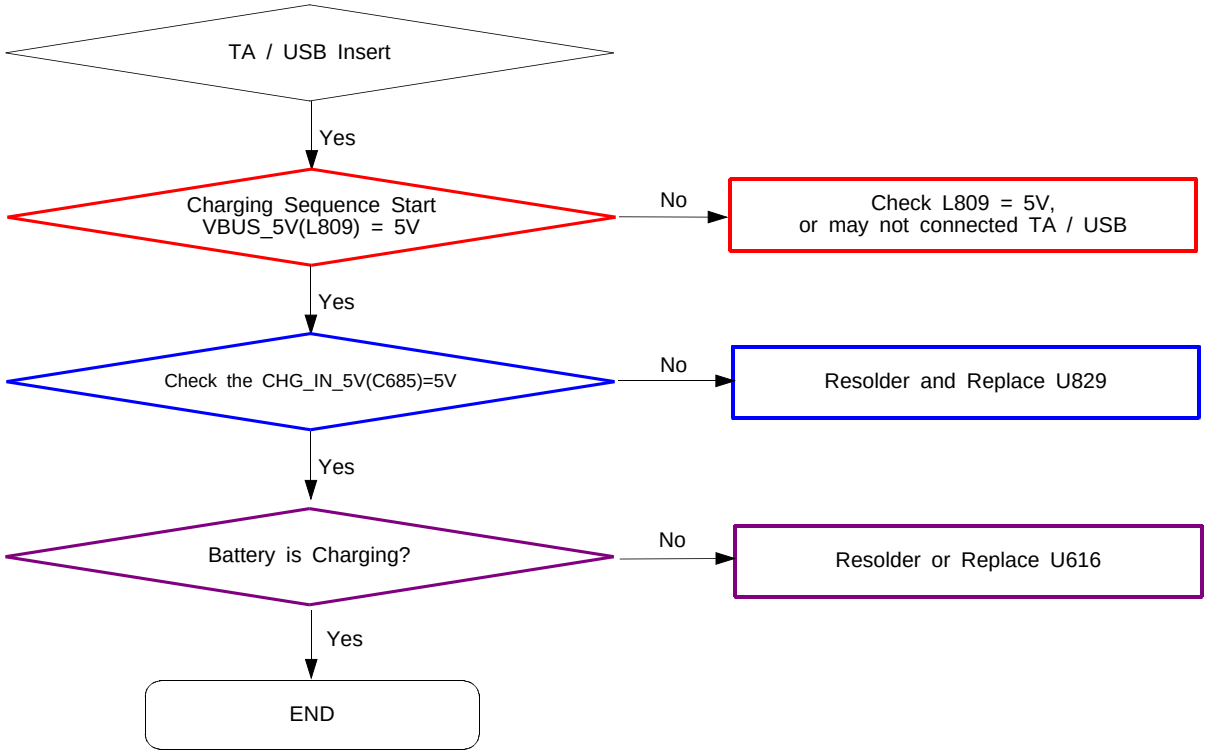
8-3-5. Charging Part



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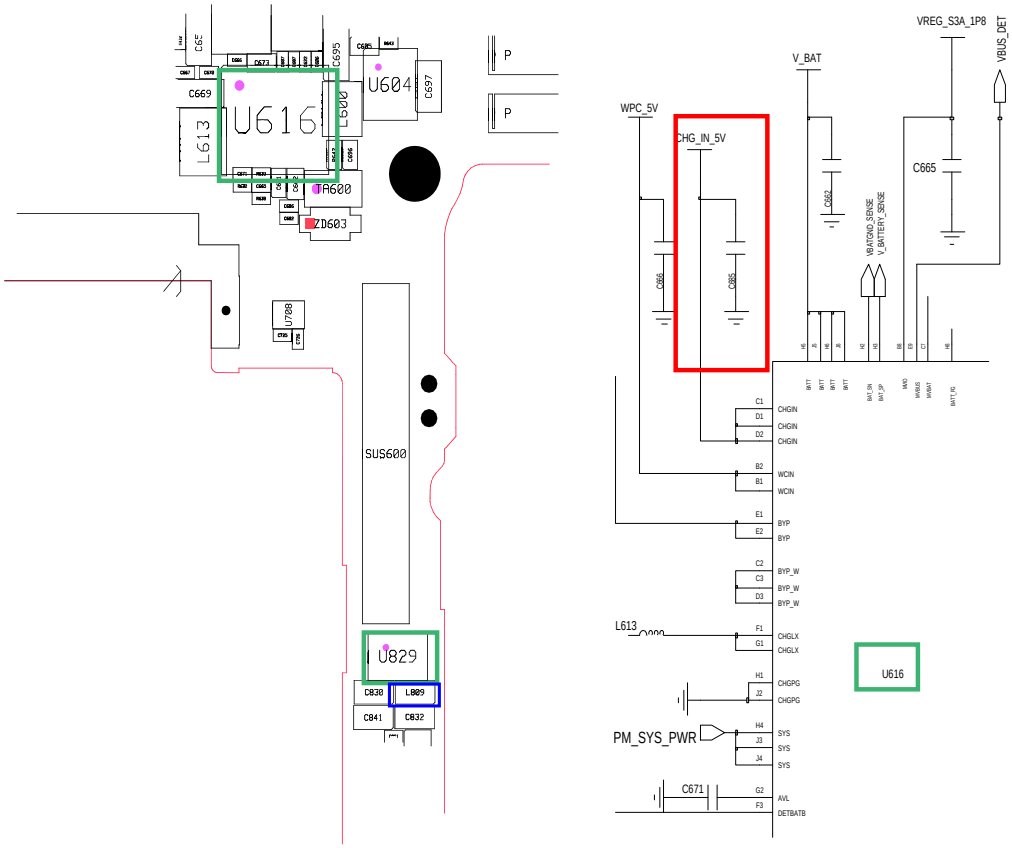

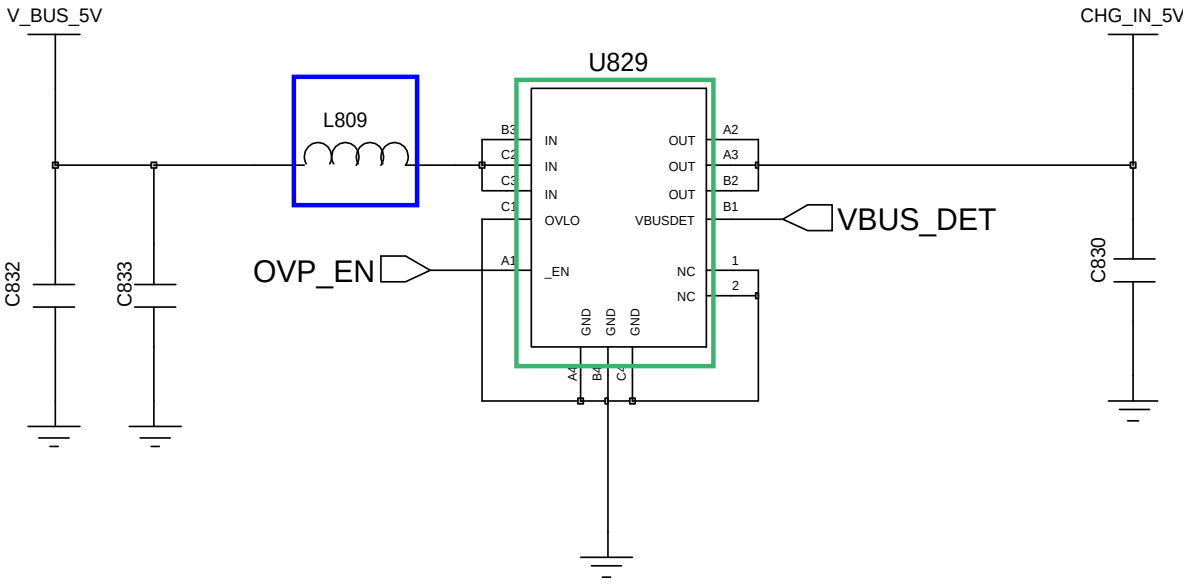

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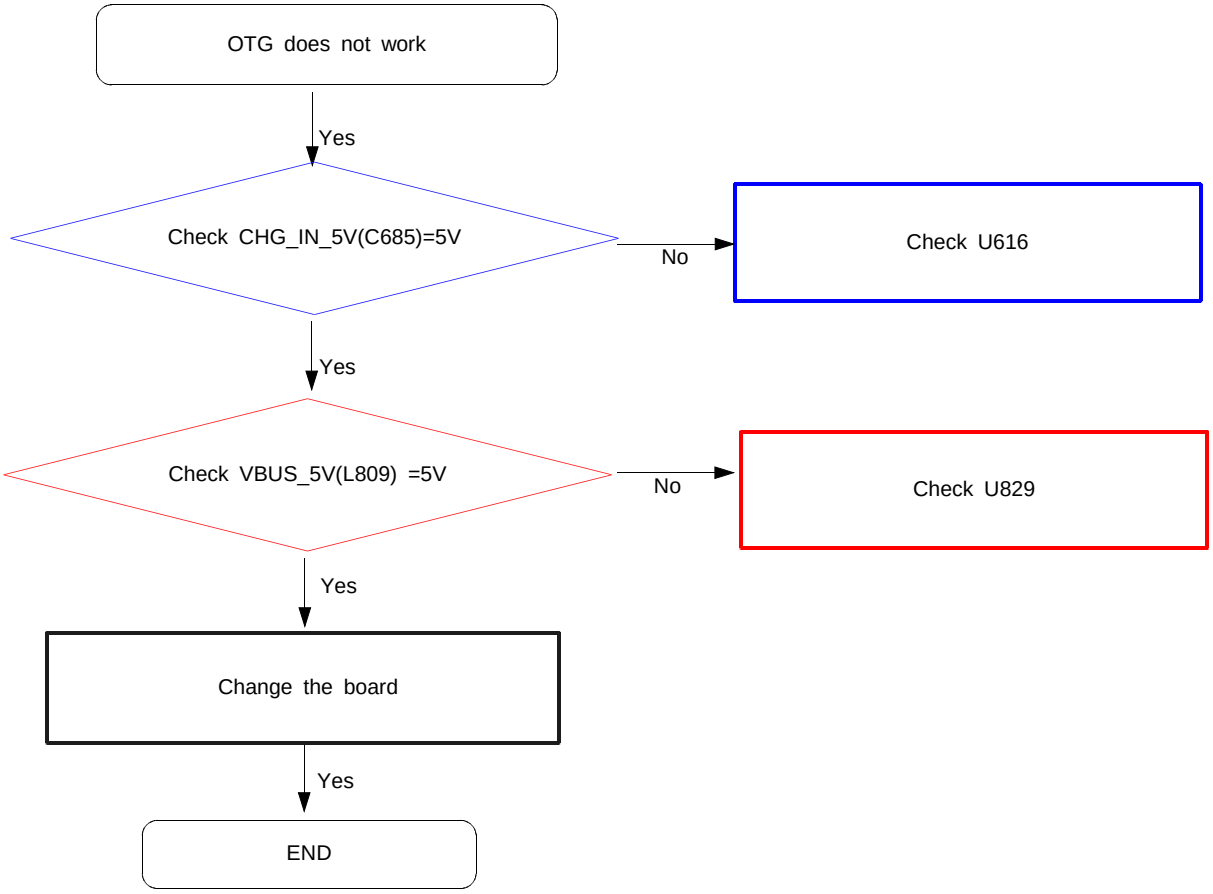
8-3-6. OTG



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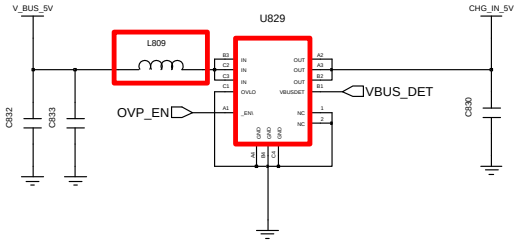

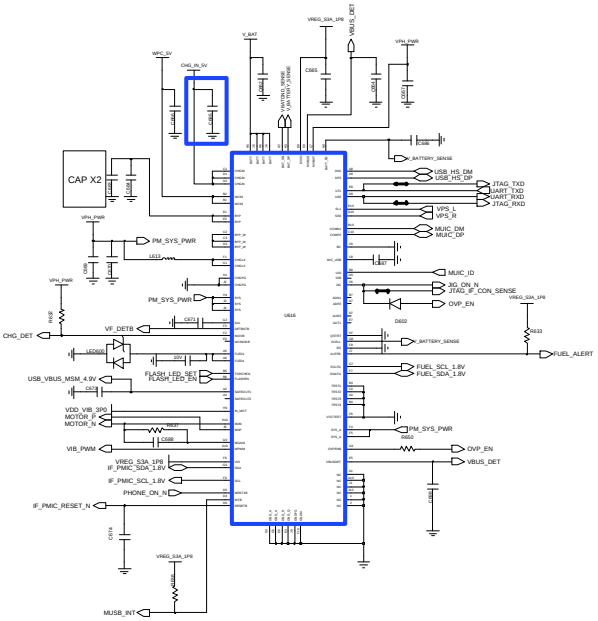

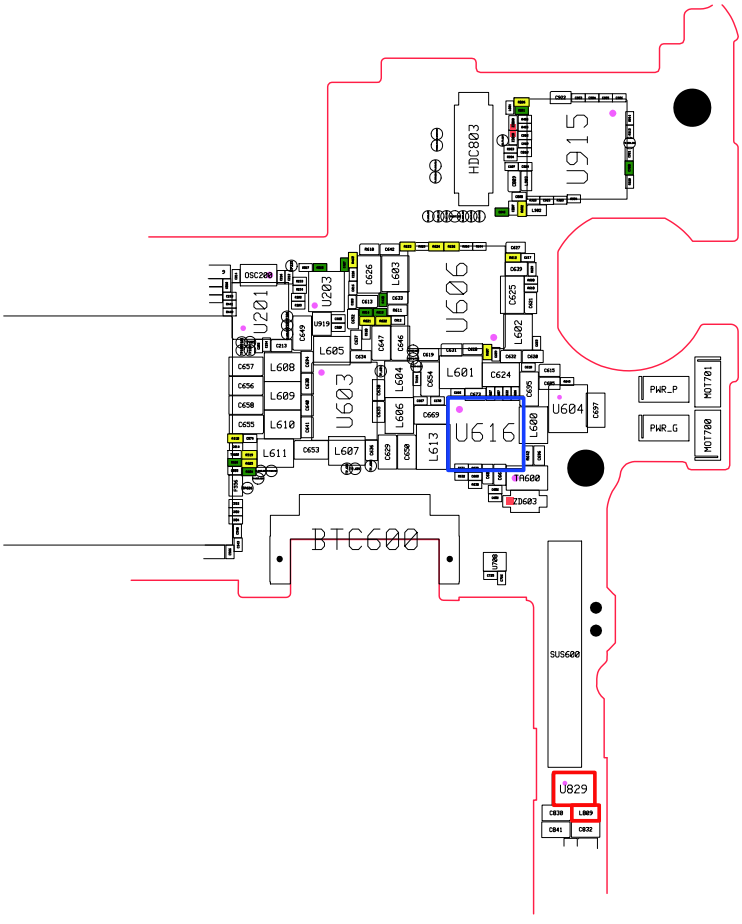

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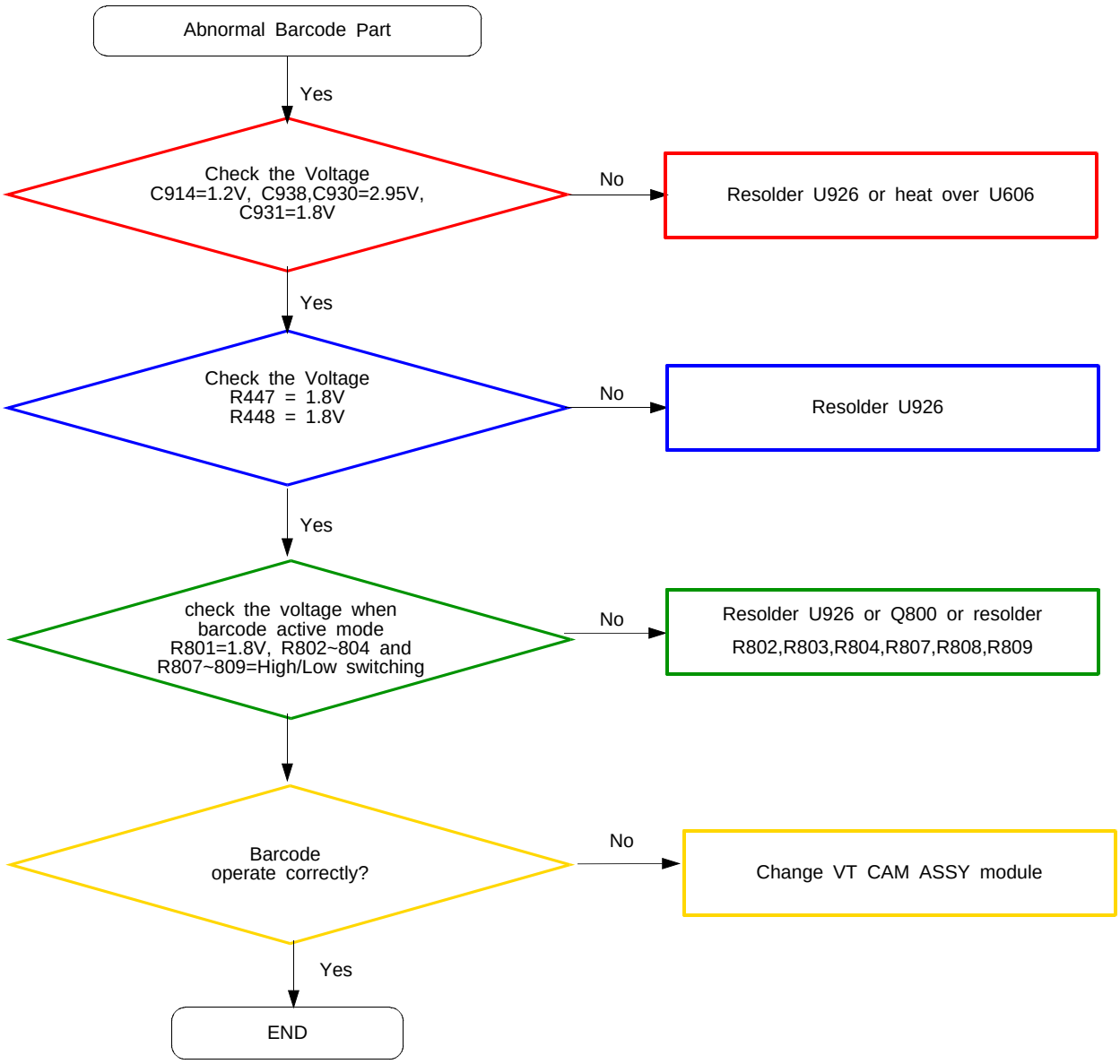
8-3-7. Sensor

1. Barcode emulator



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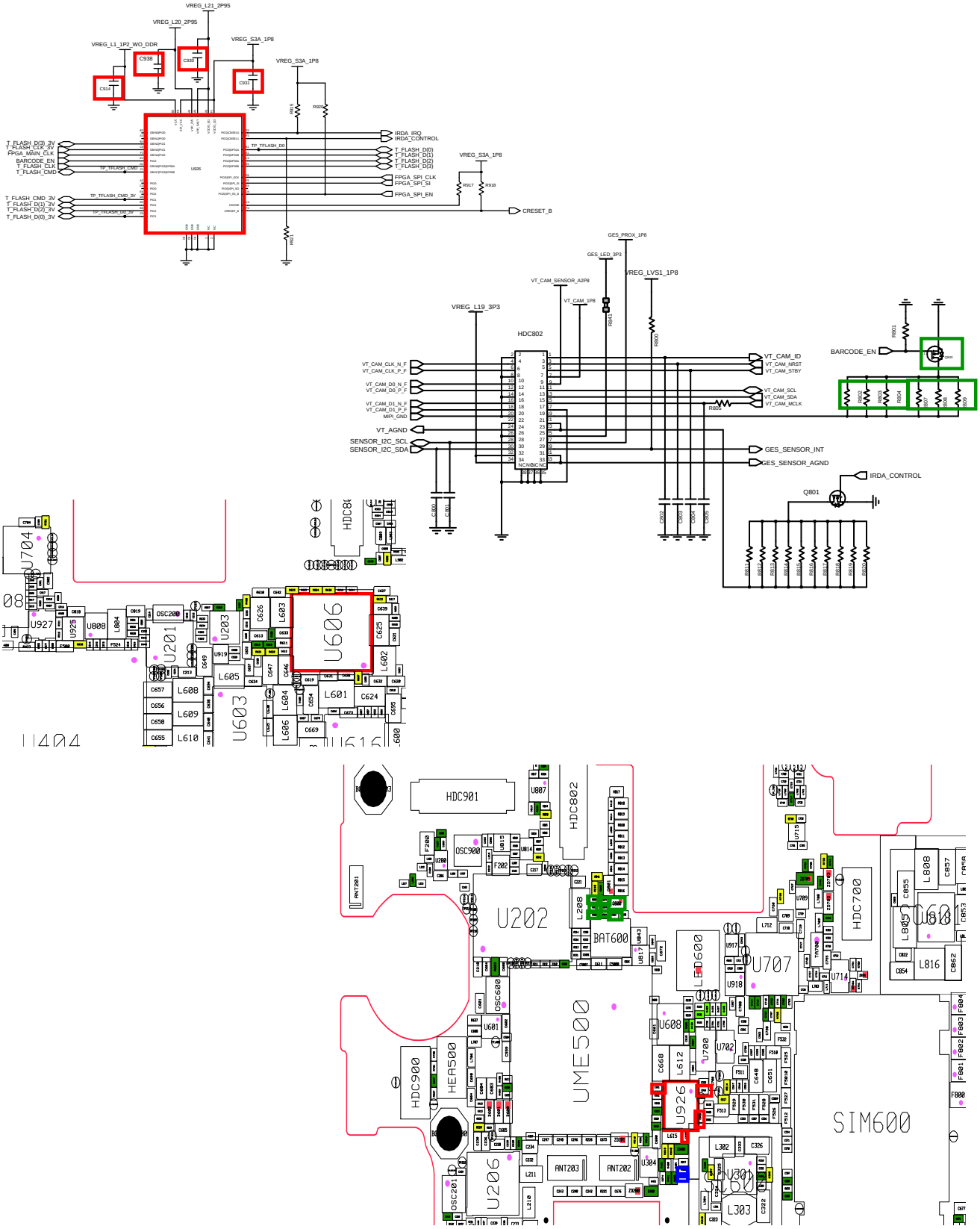

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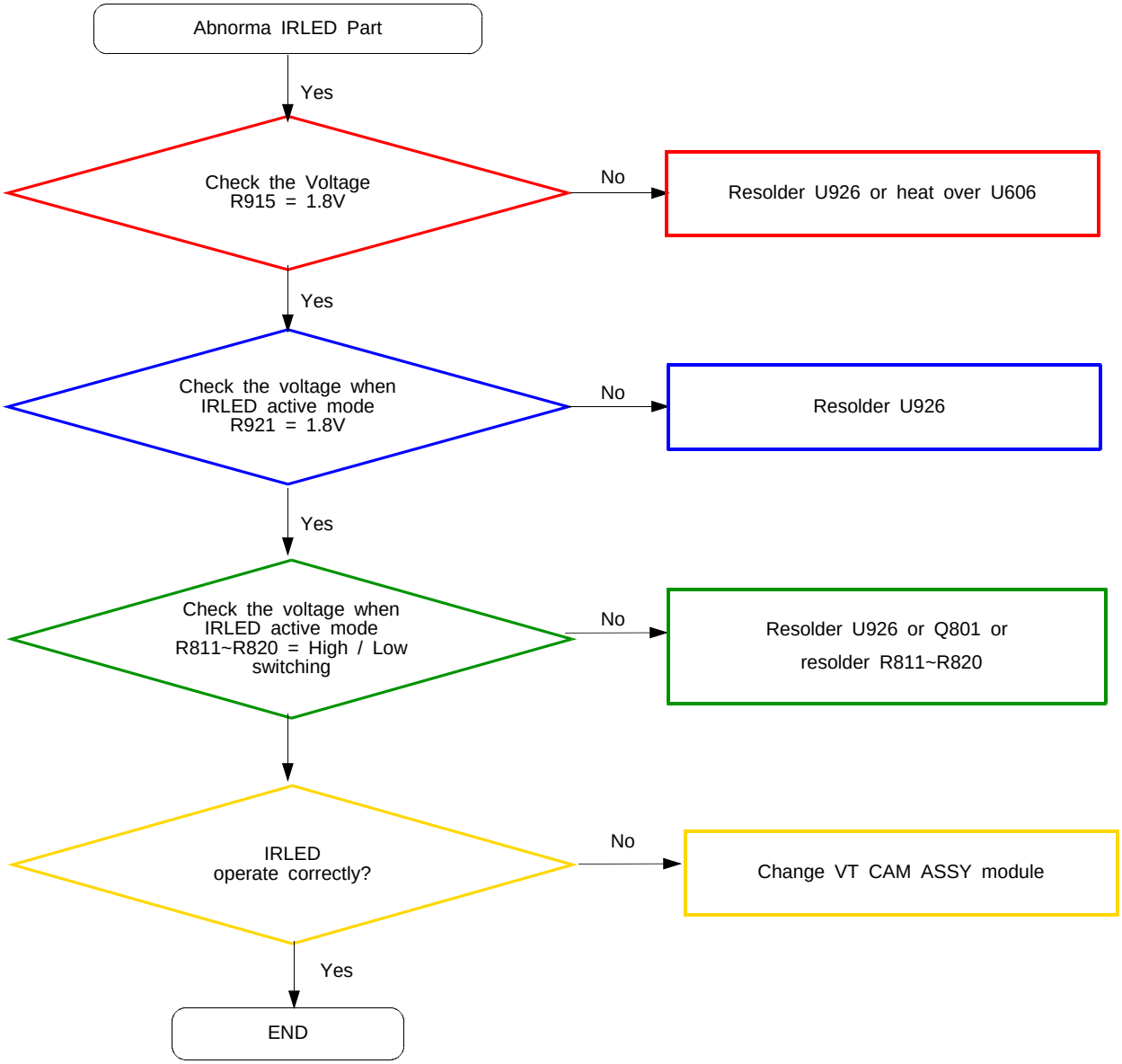
2. IR LED



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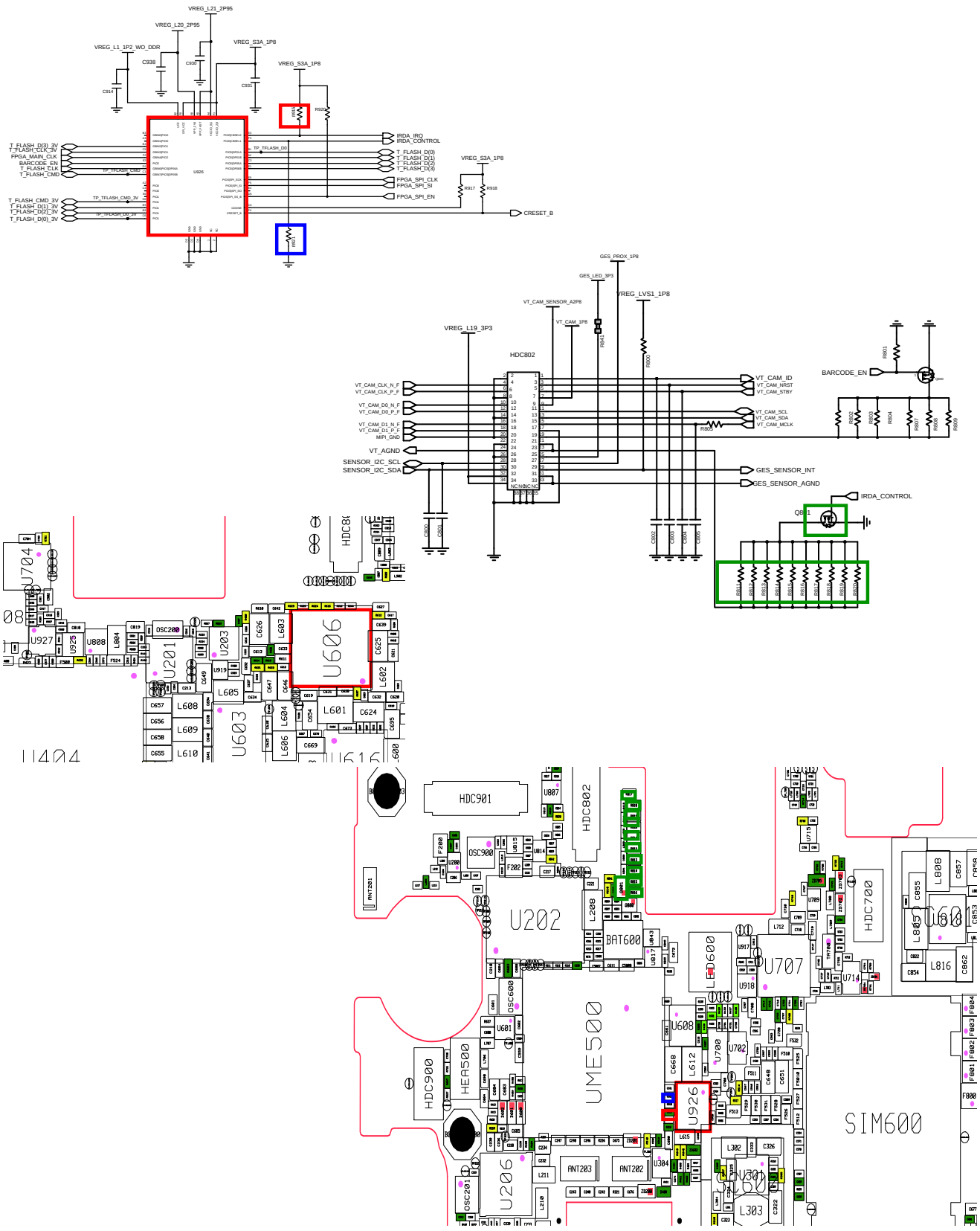

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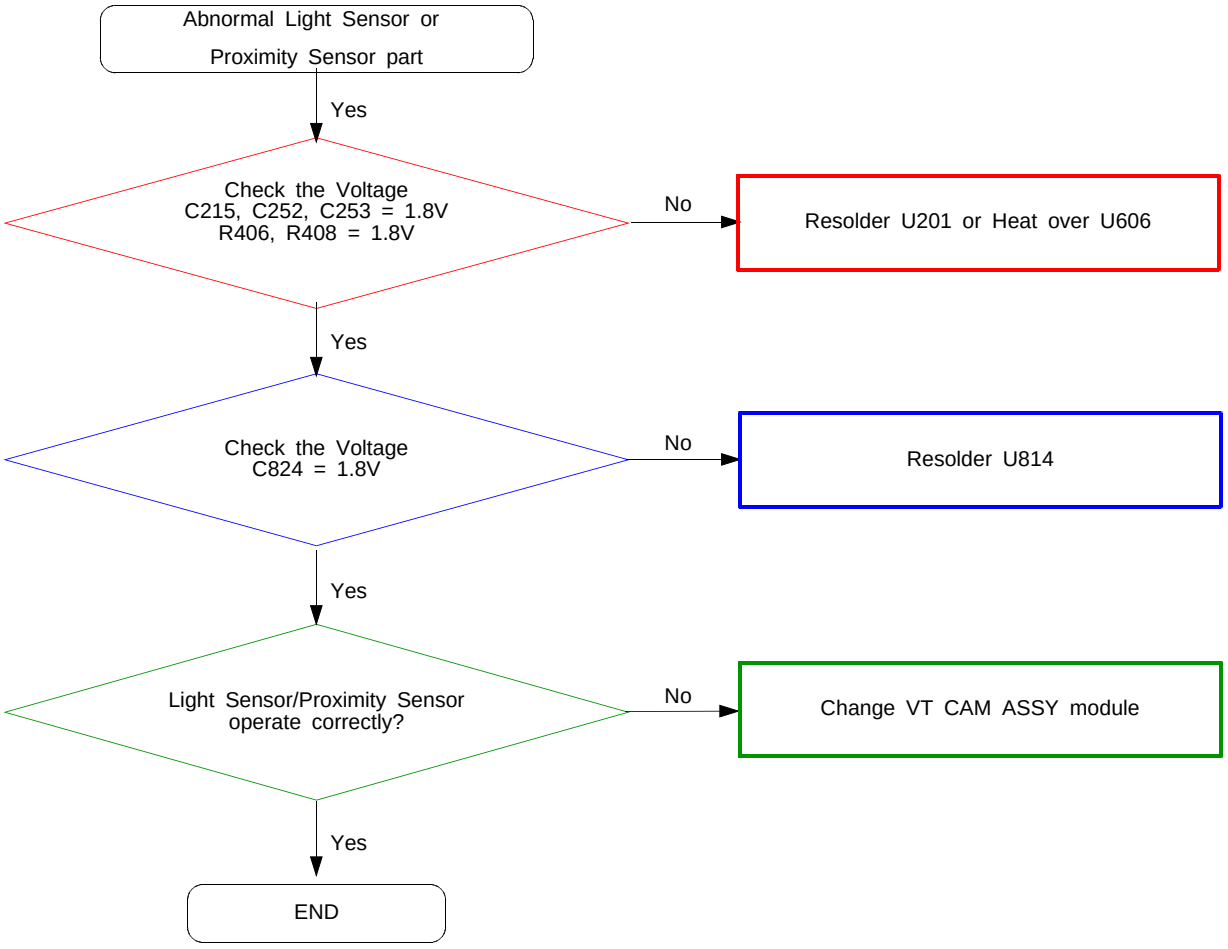
3. Light Sensor / Proximity Sensor



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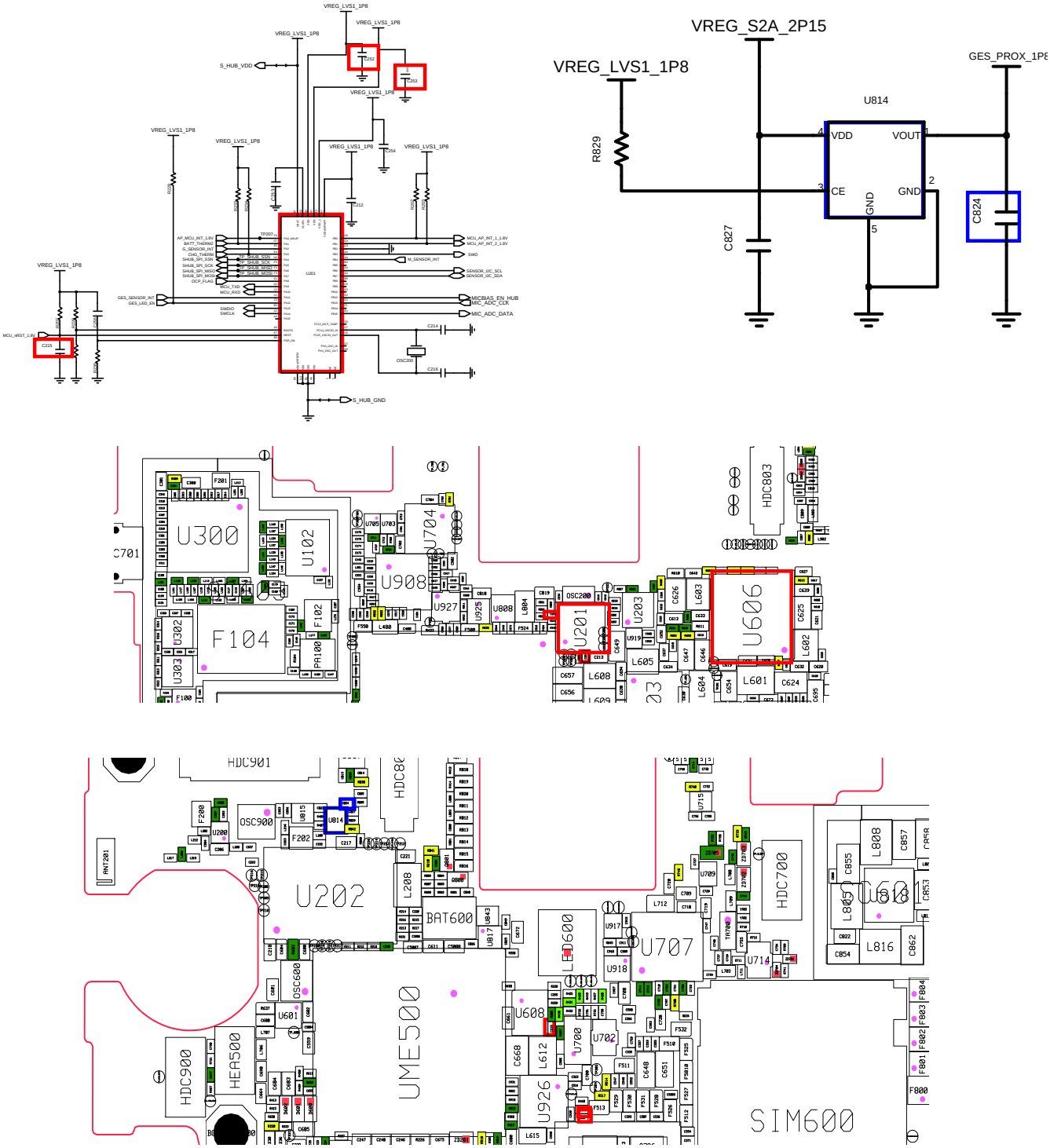

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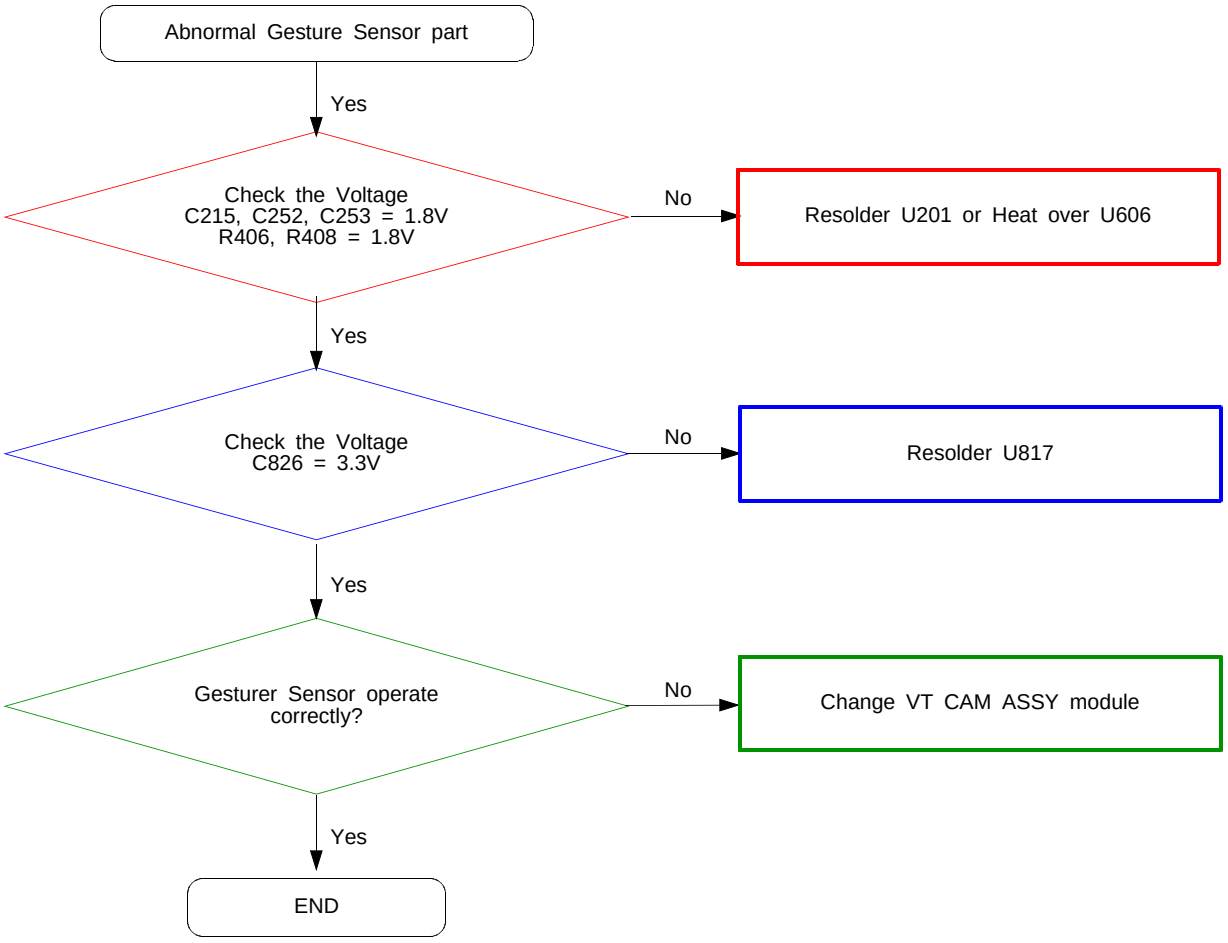
4. GESTURE Sensor



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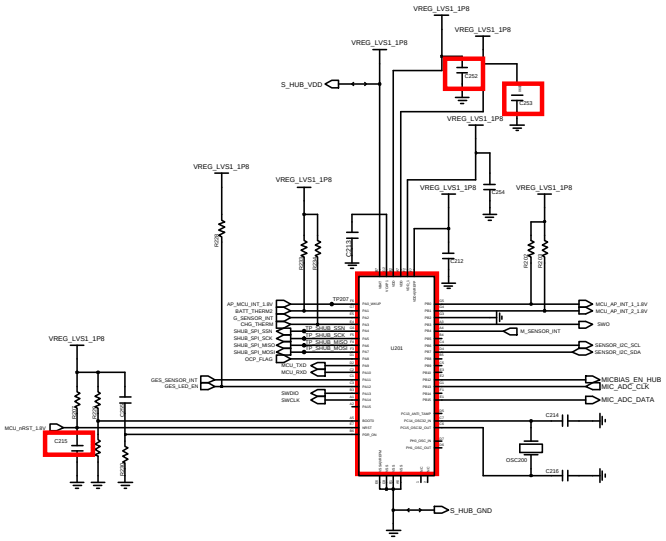

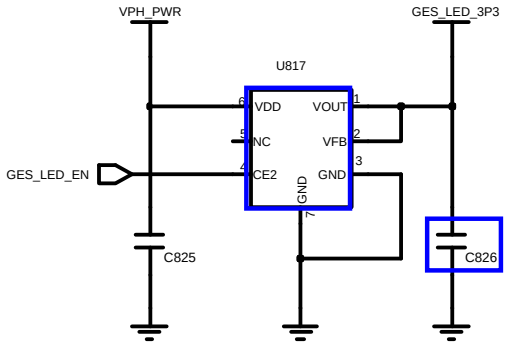

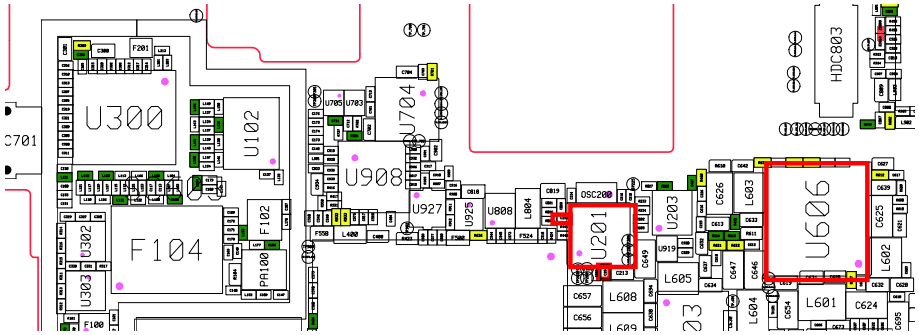

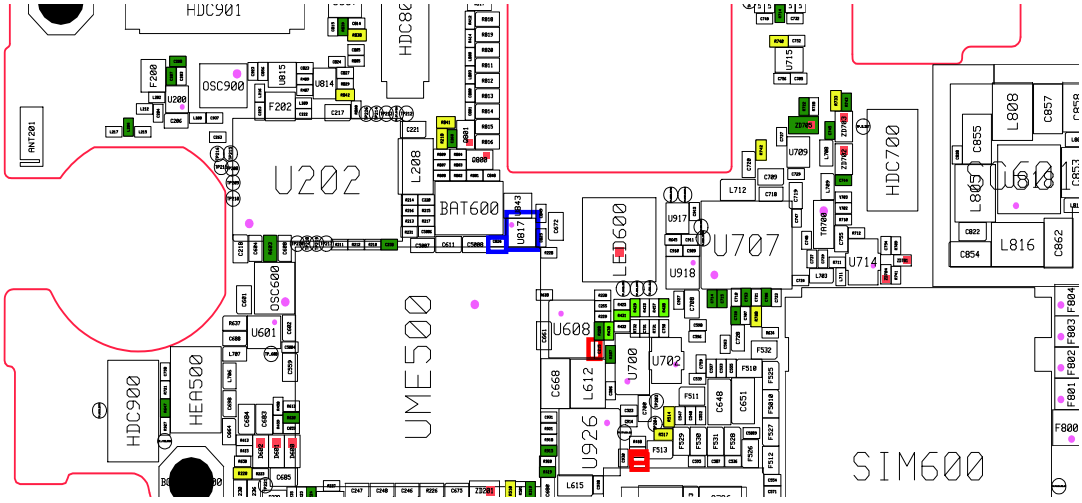

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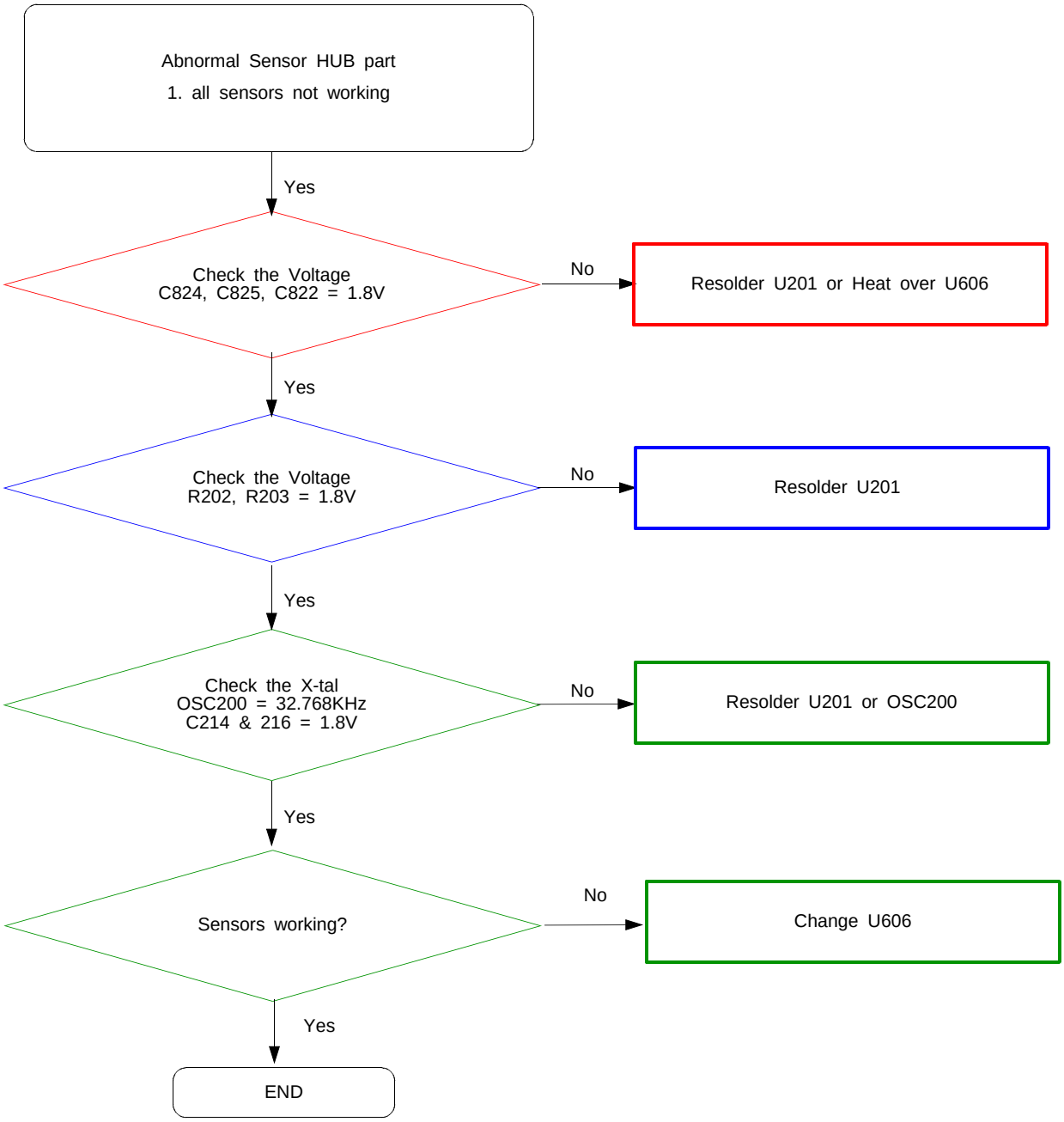
5. Sensor HUB part



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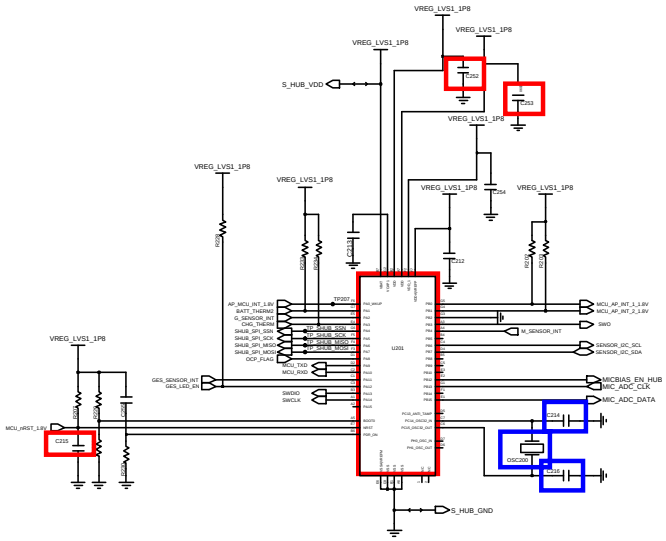

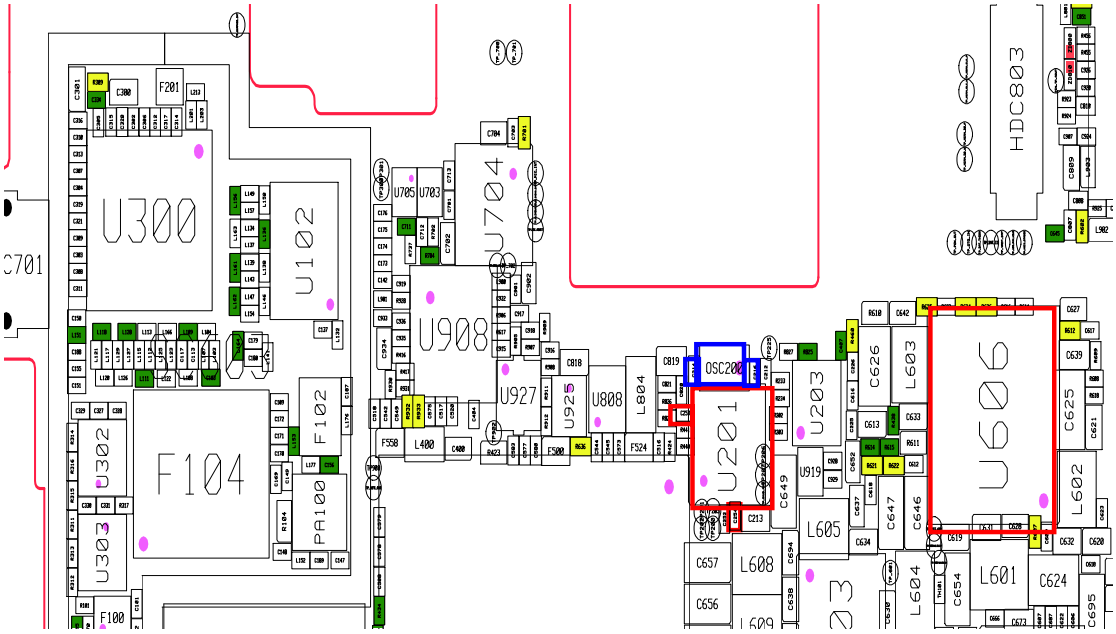

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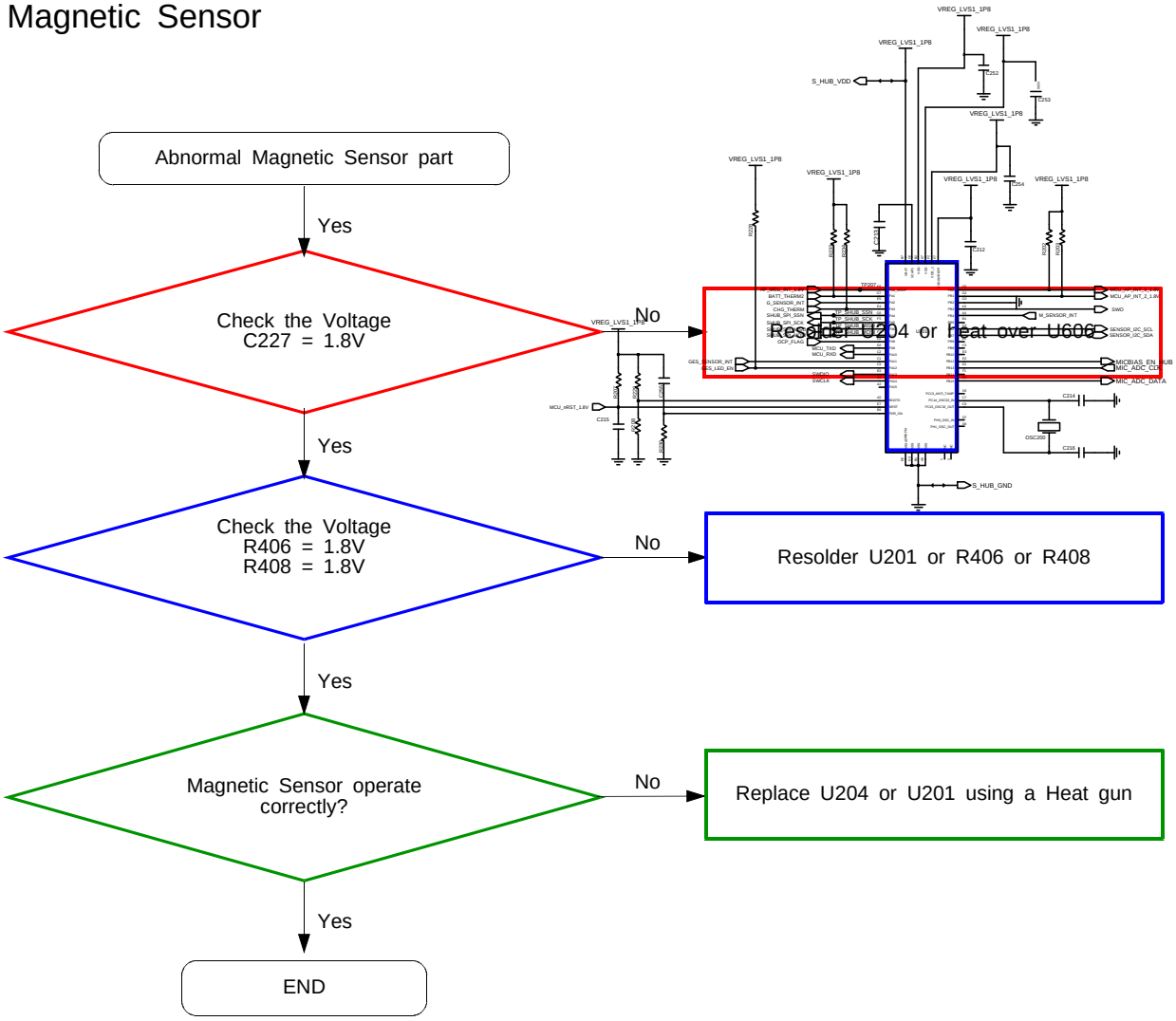
6. Magnetic Sensor



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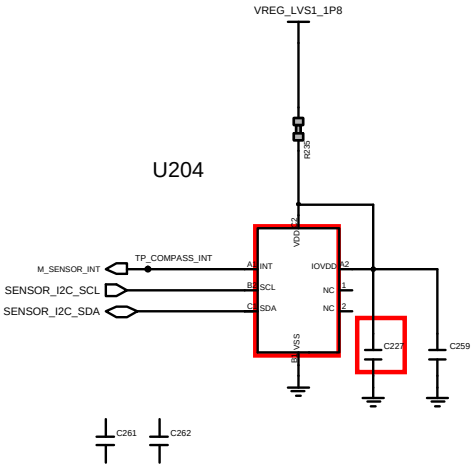

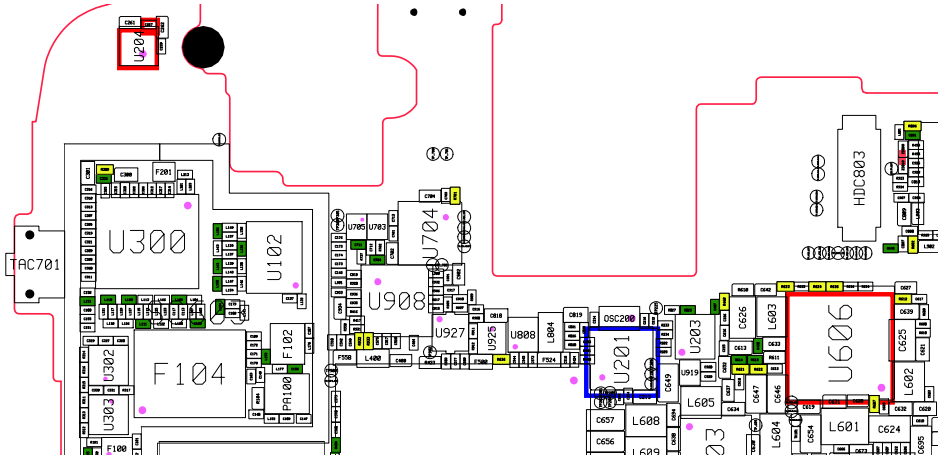

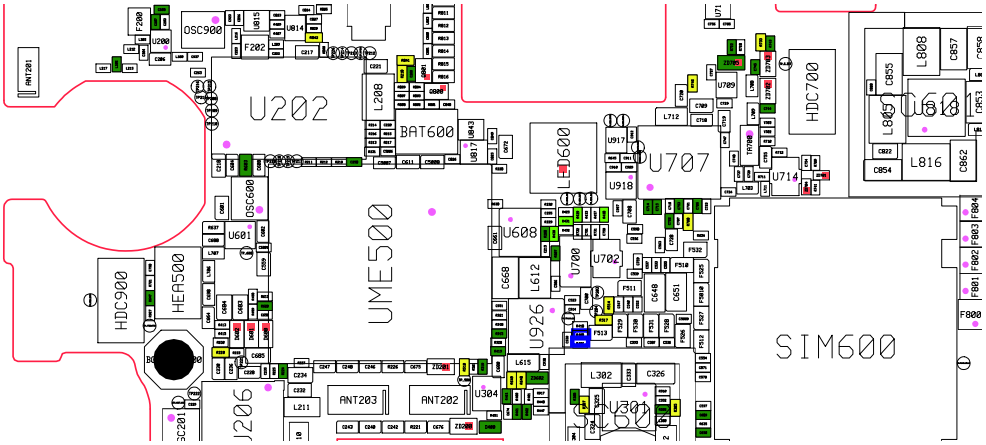

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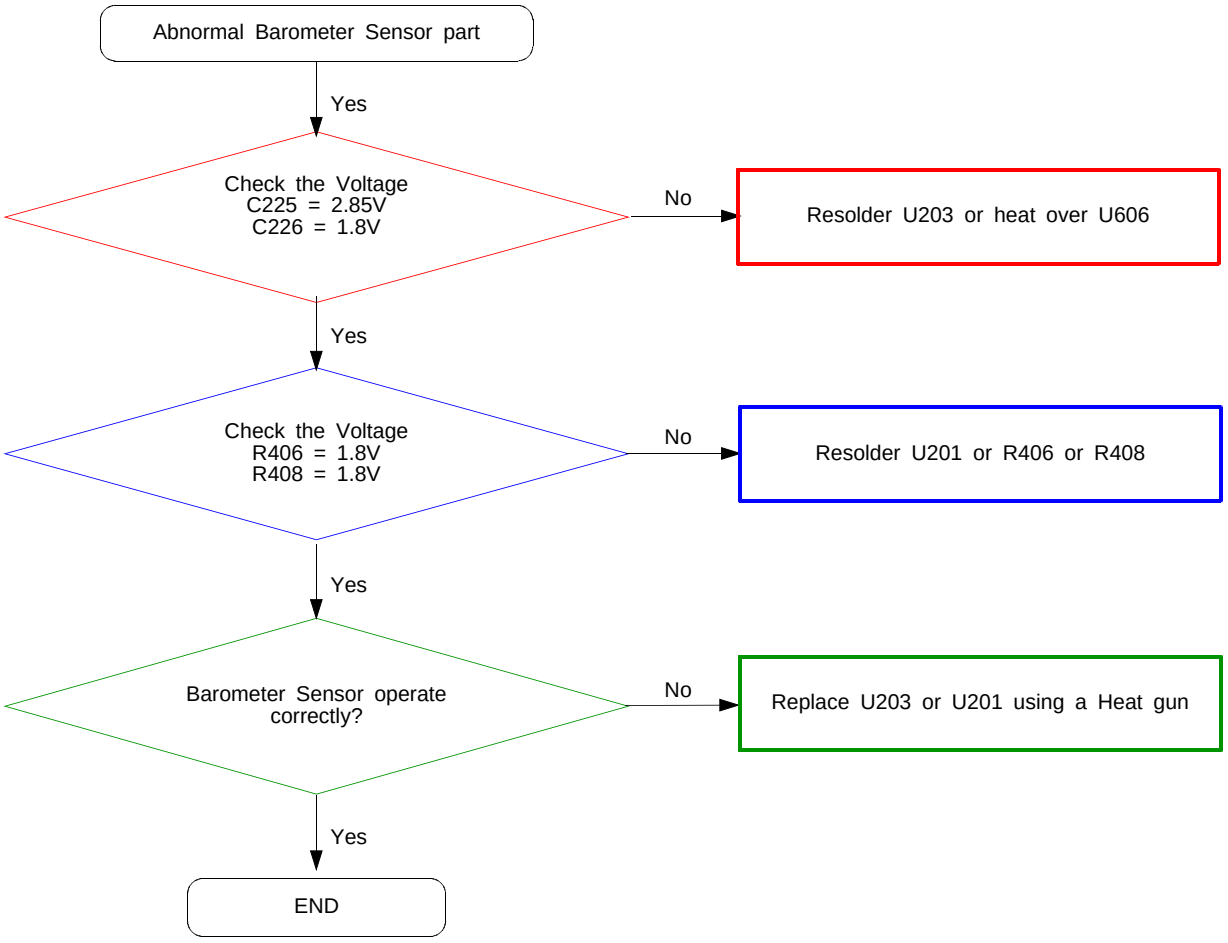
7. Barometer Sensor



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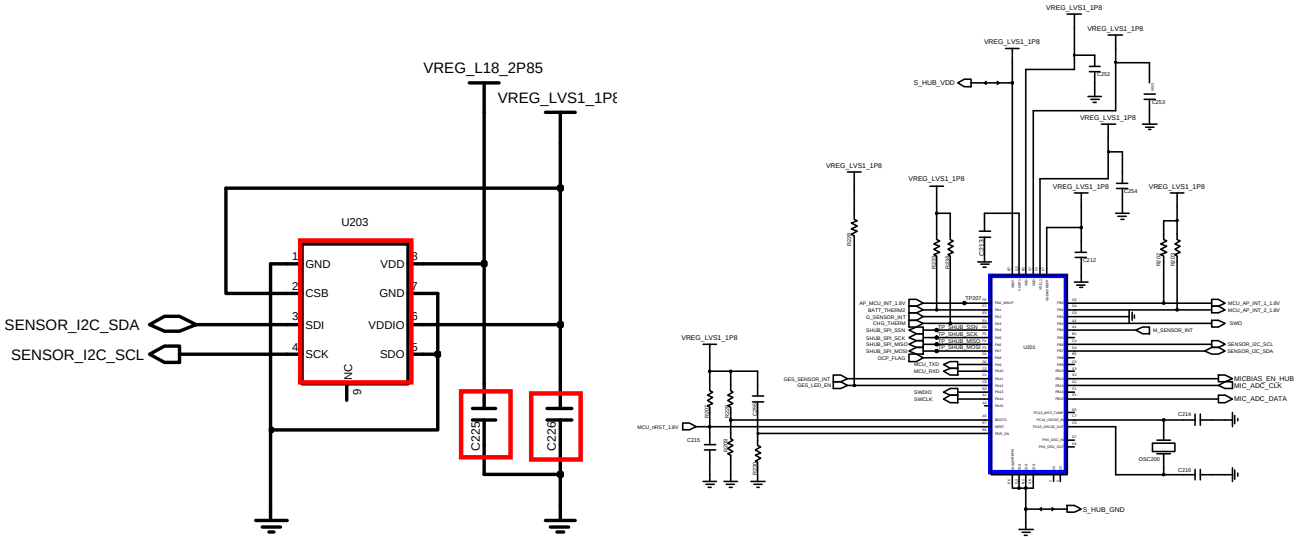

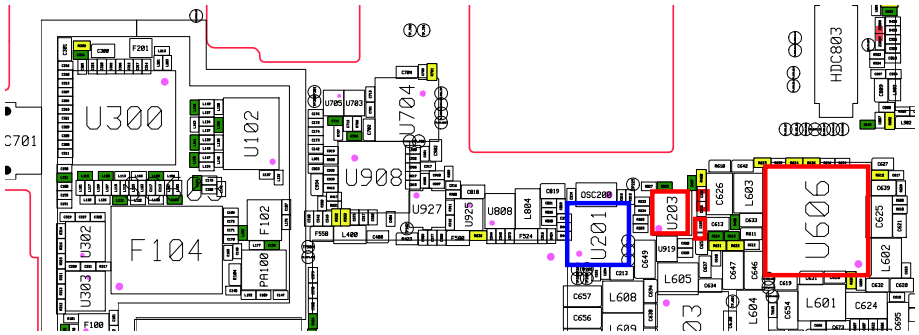

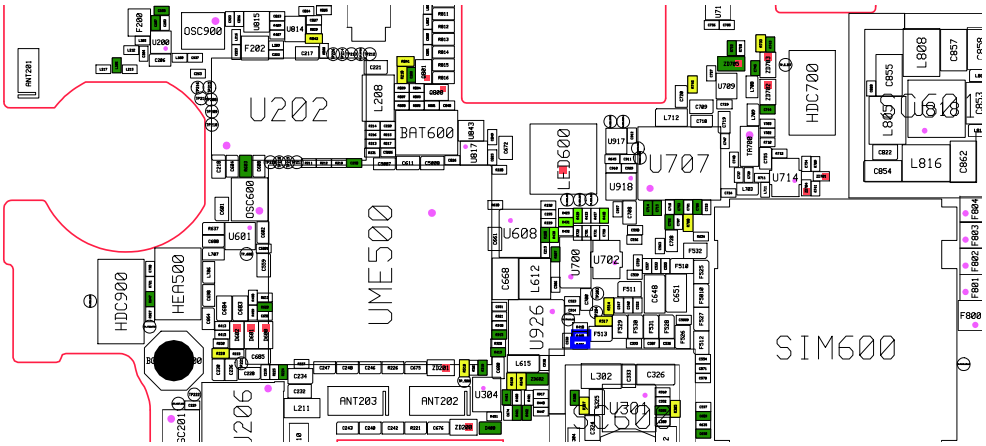

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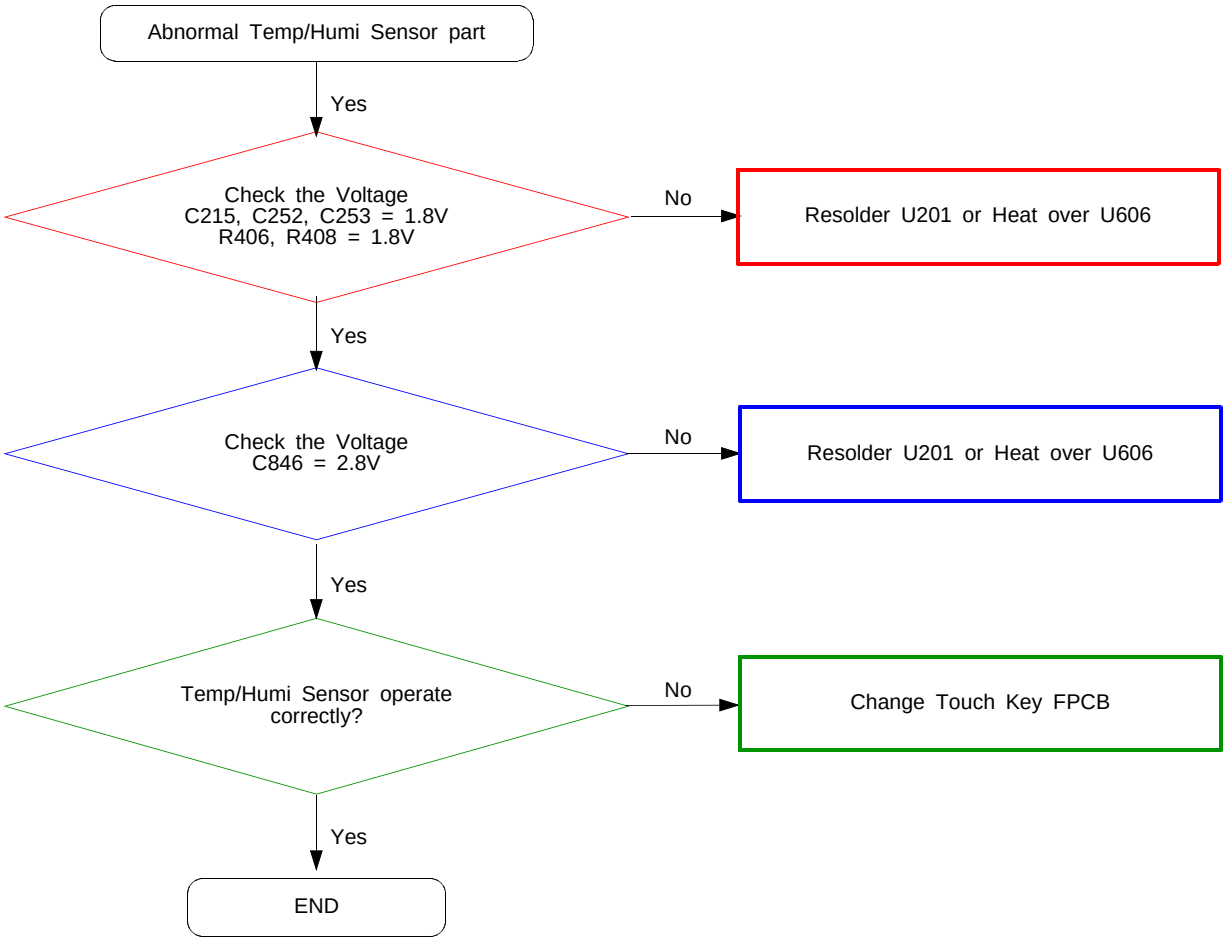
8. TEMP/Humidity sensor



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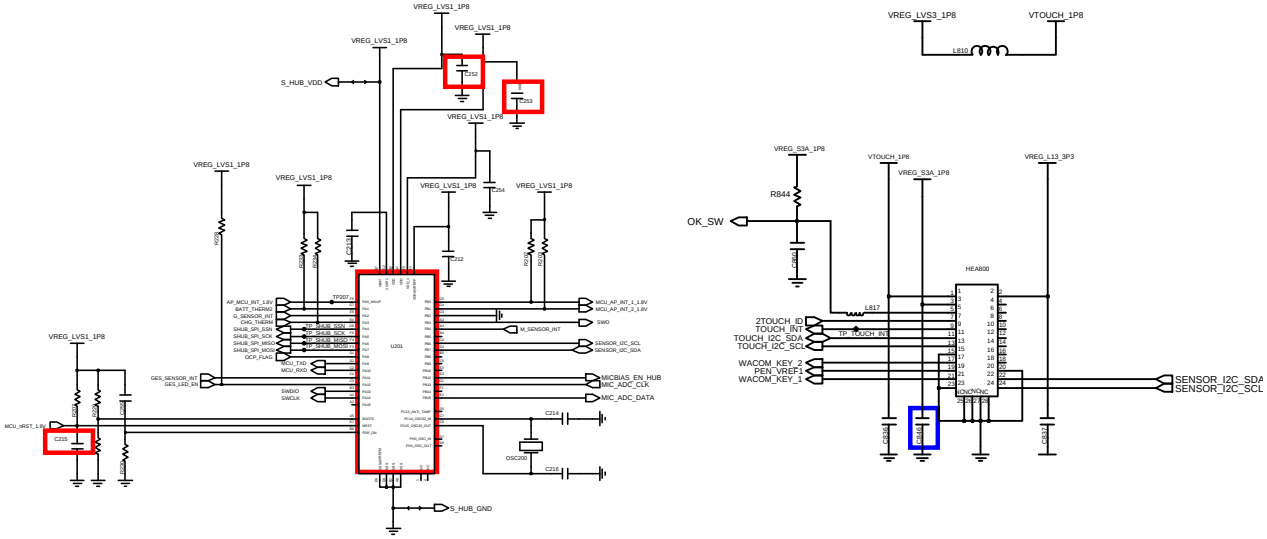

※ Temp/Humi Sensor After Repair

1) Keypad : press *#0*#
2) Select "Sensor"
3) Select "Temp-Humid"
4) Read the COMP data (ignore the RAW data)

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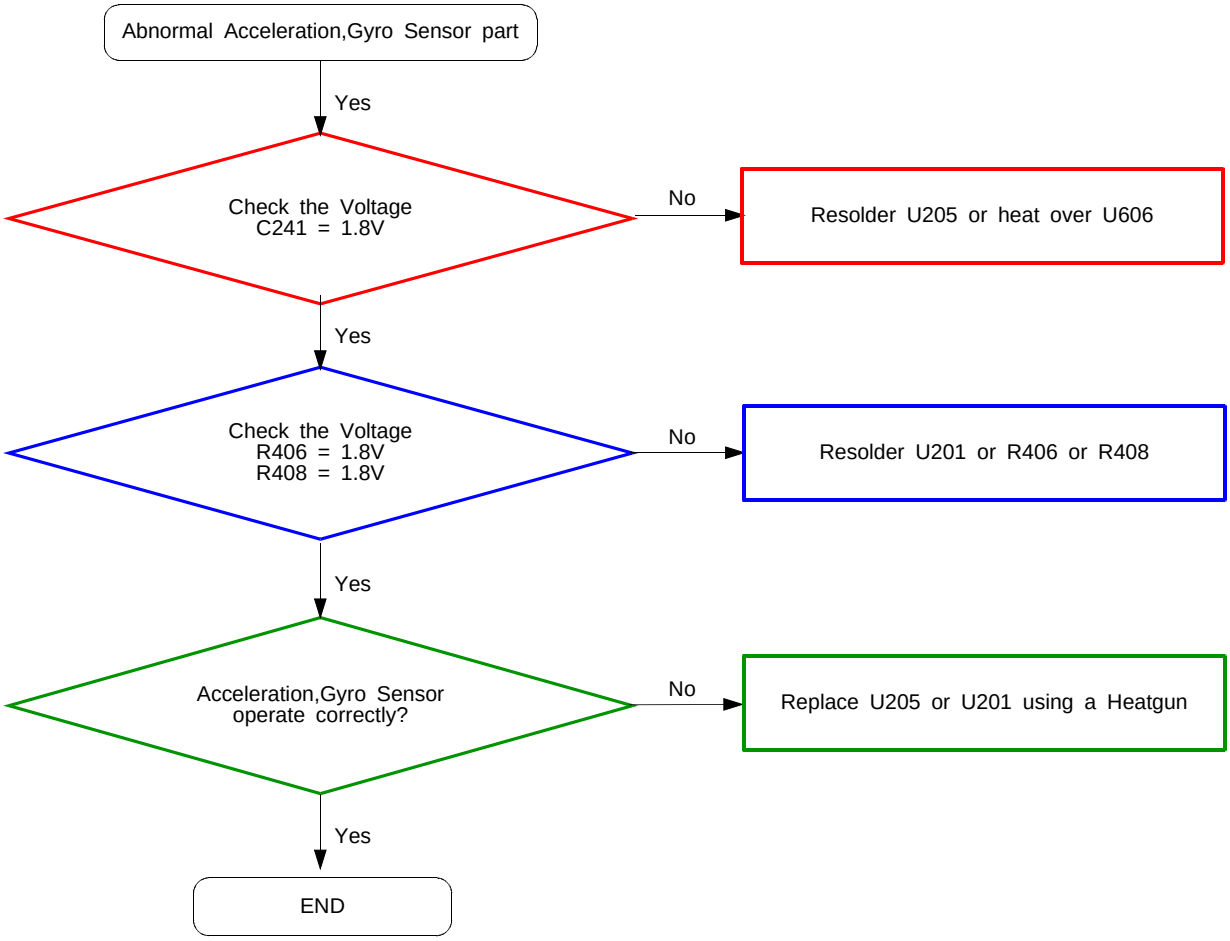
9. Acceleration , Gyro Sensor



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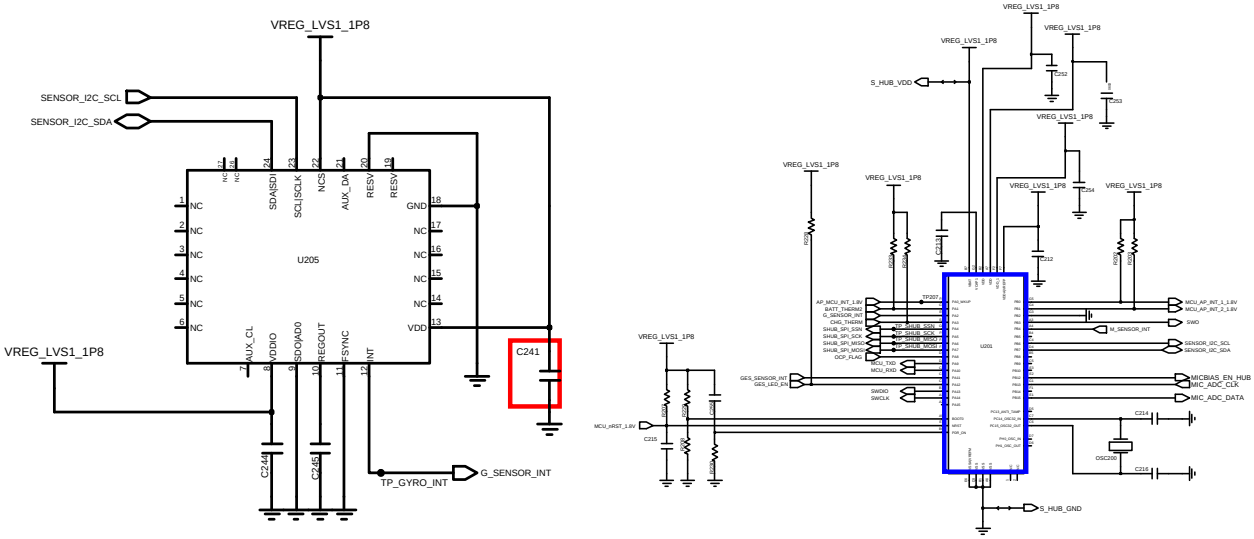

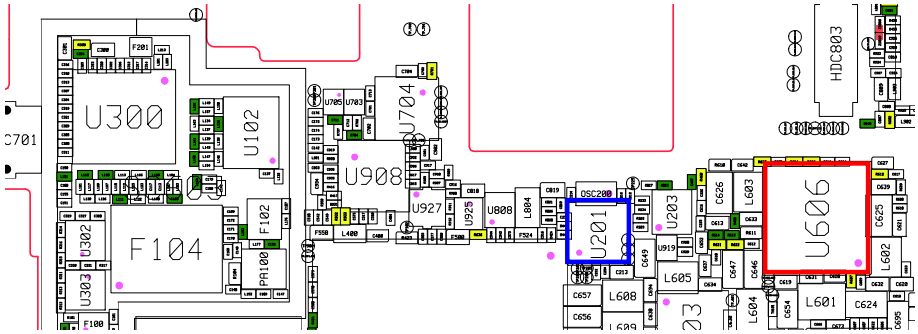

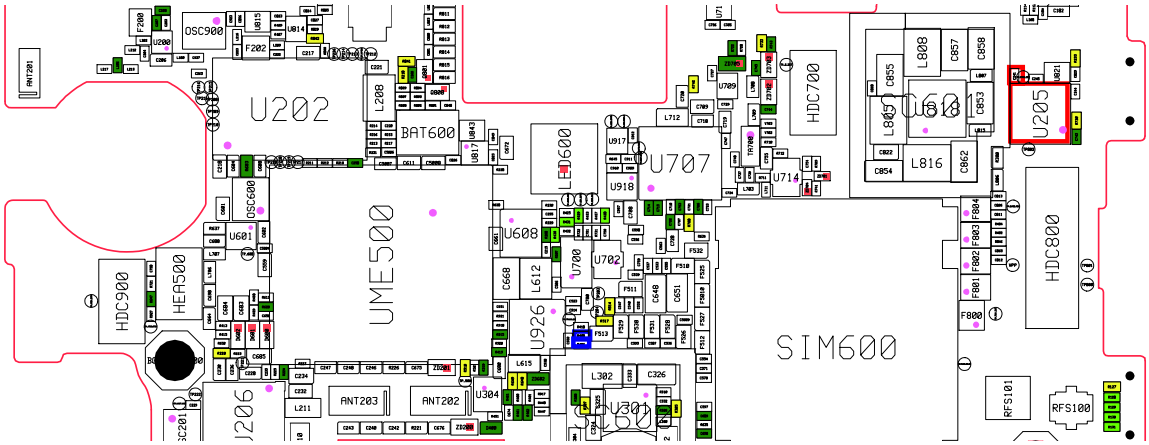

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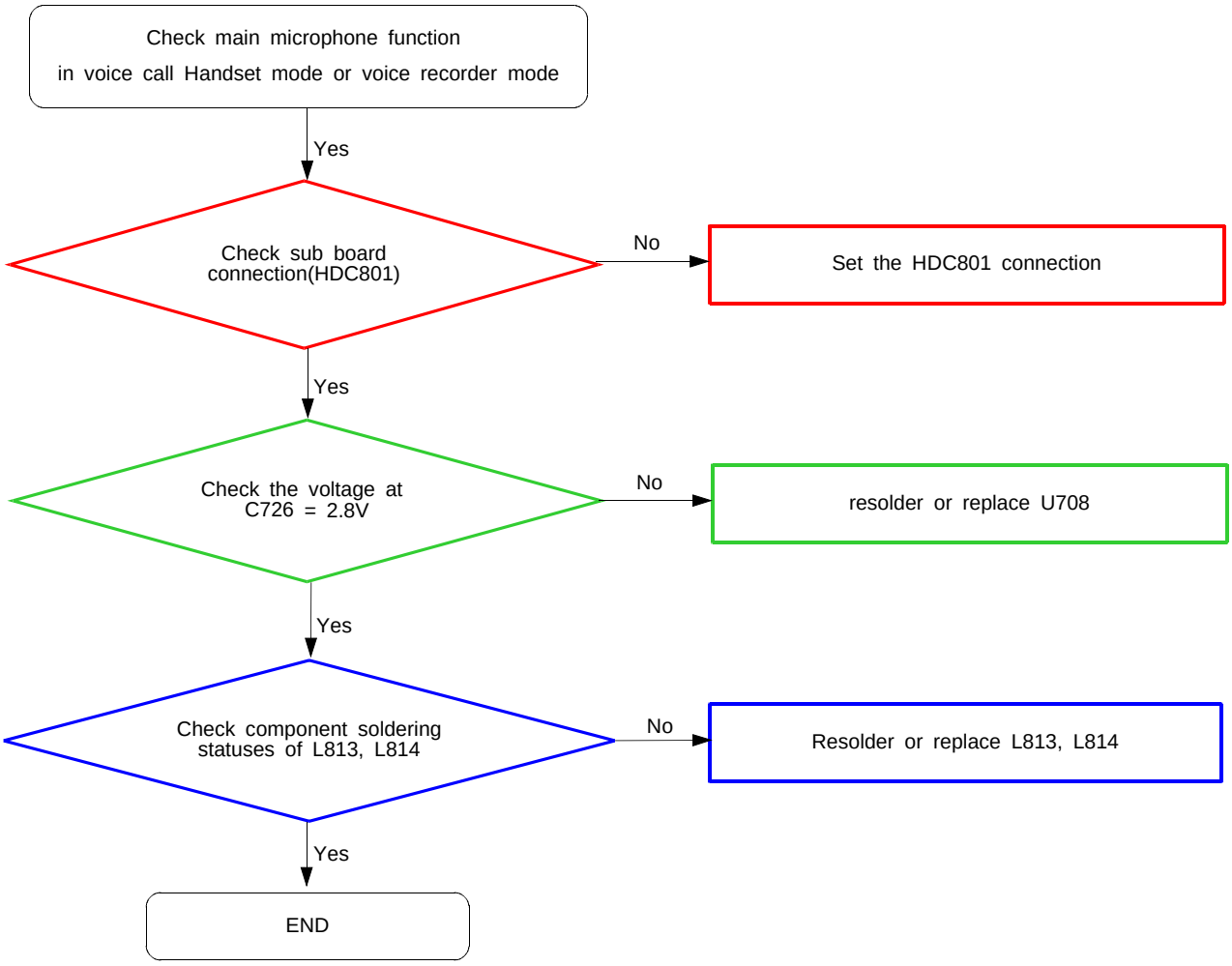
8-3-8-1 Microphone Part - Main MIC



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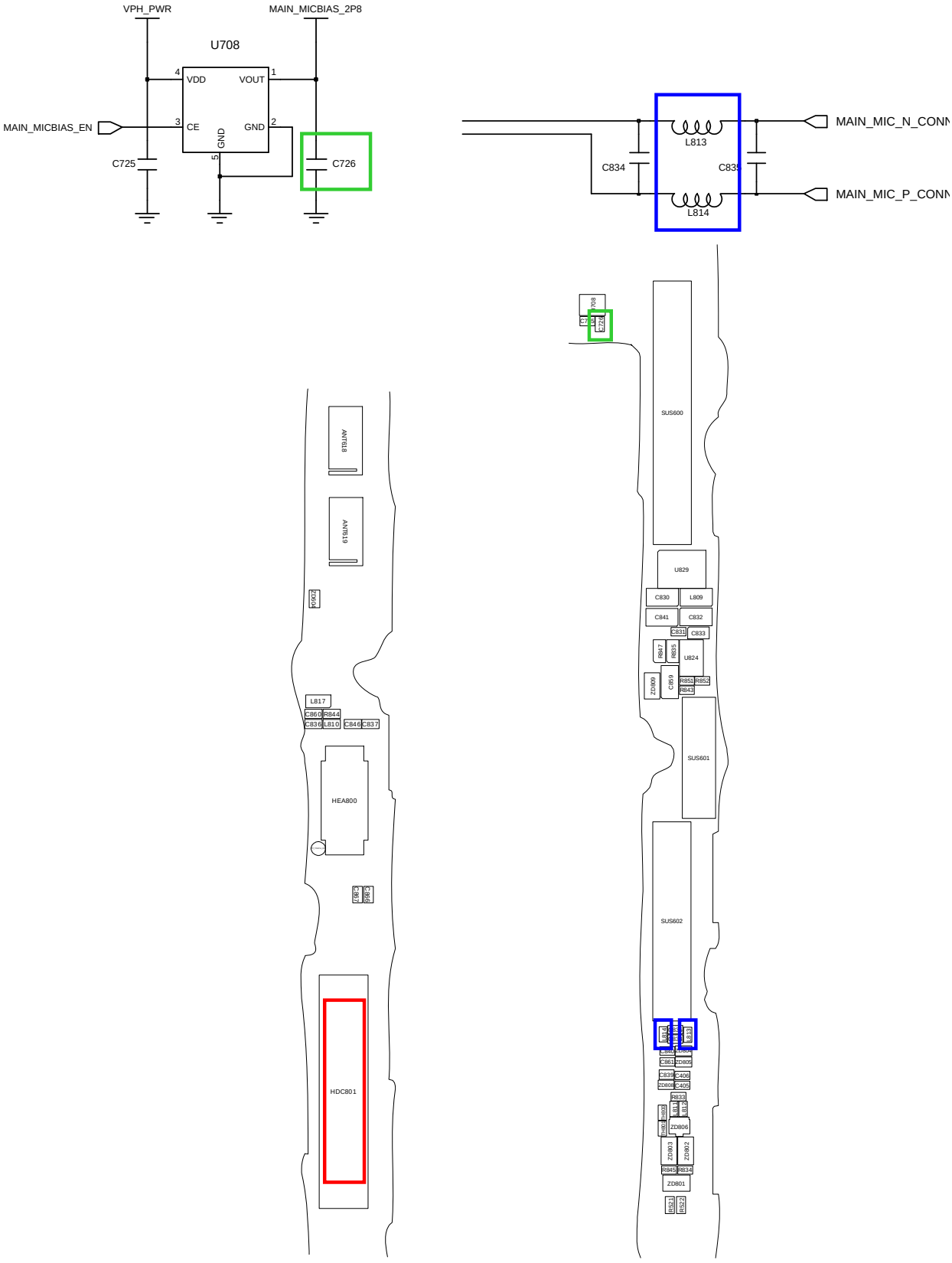

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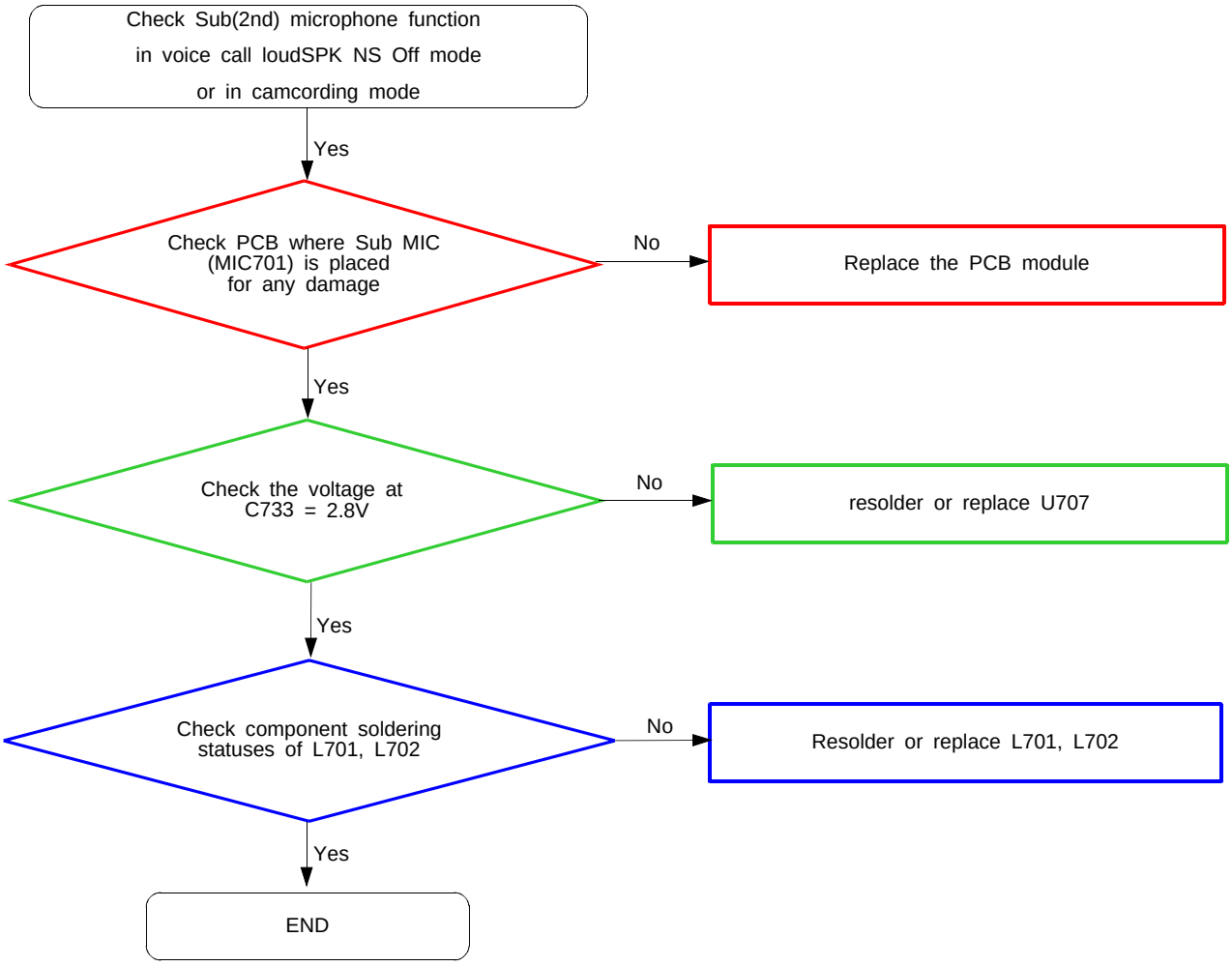
8-3-8-2. Microphone Part - Sub(2nd) MIC



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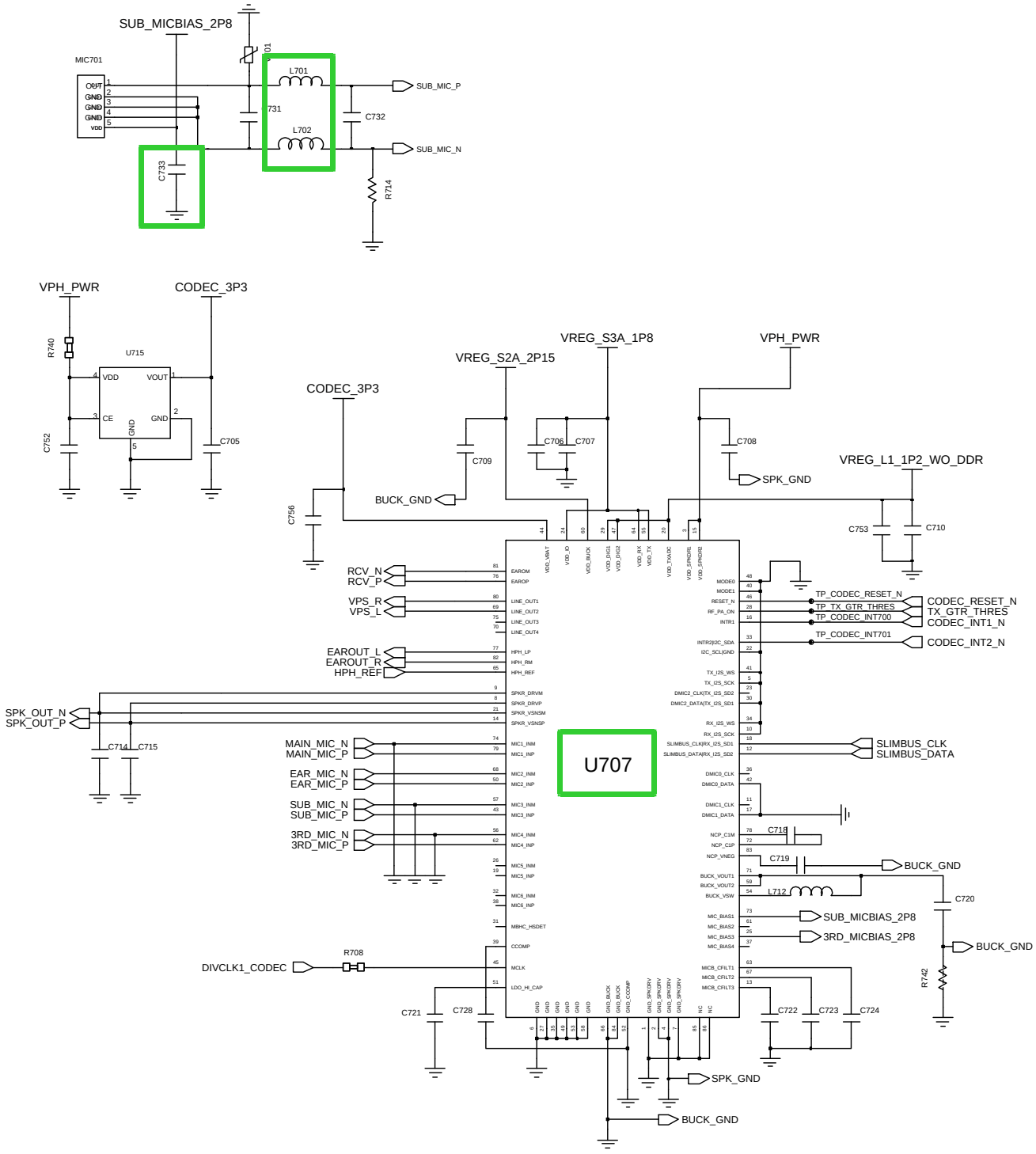

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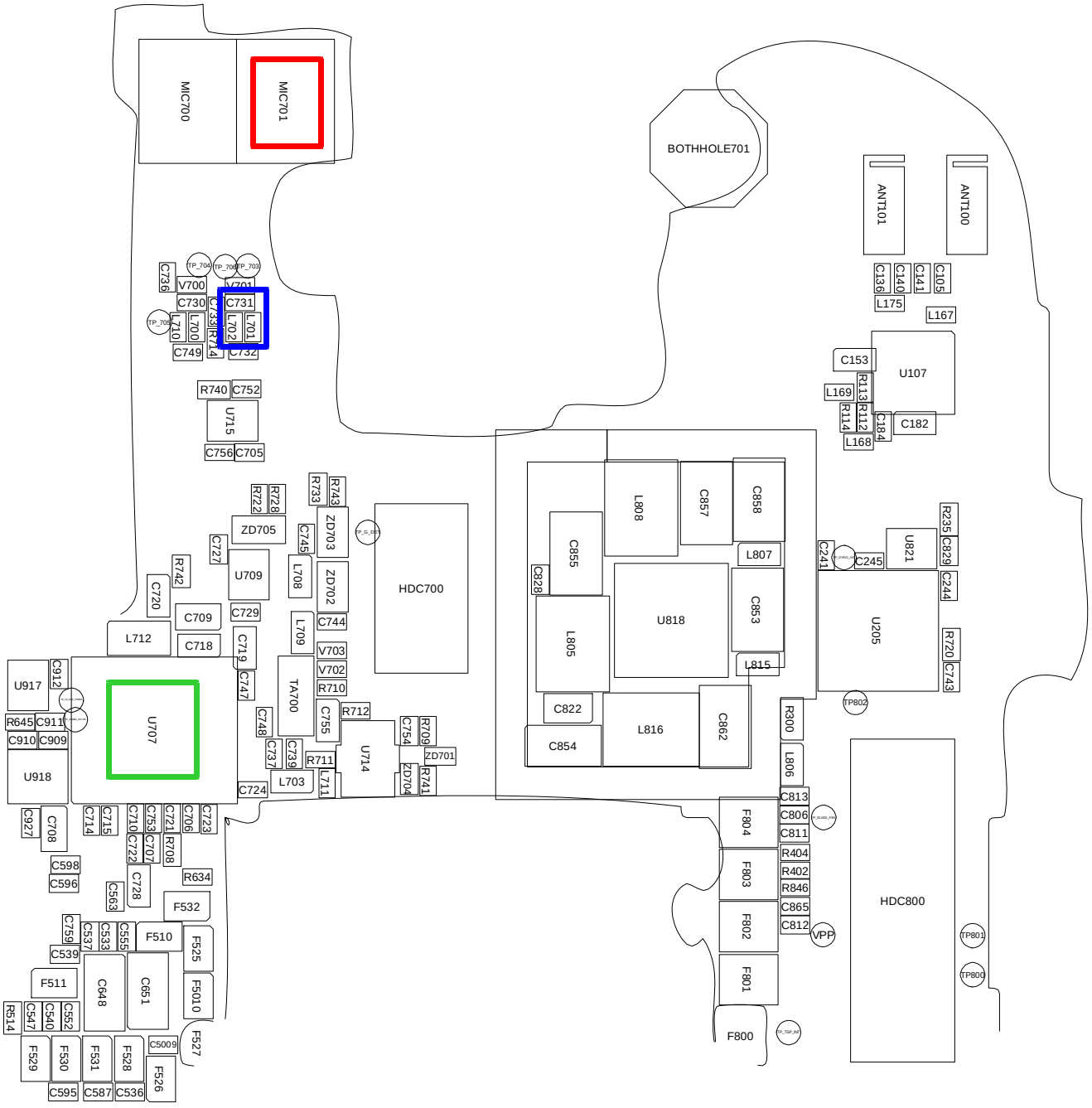

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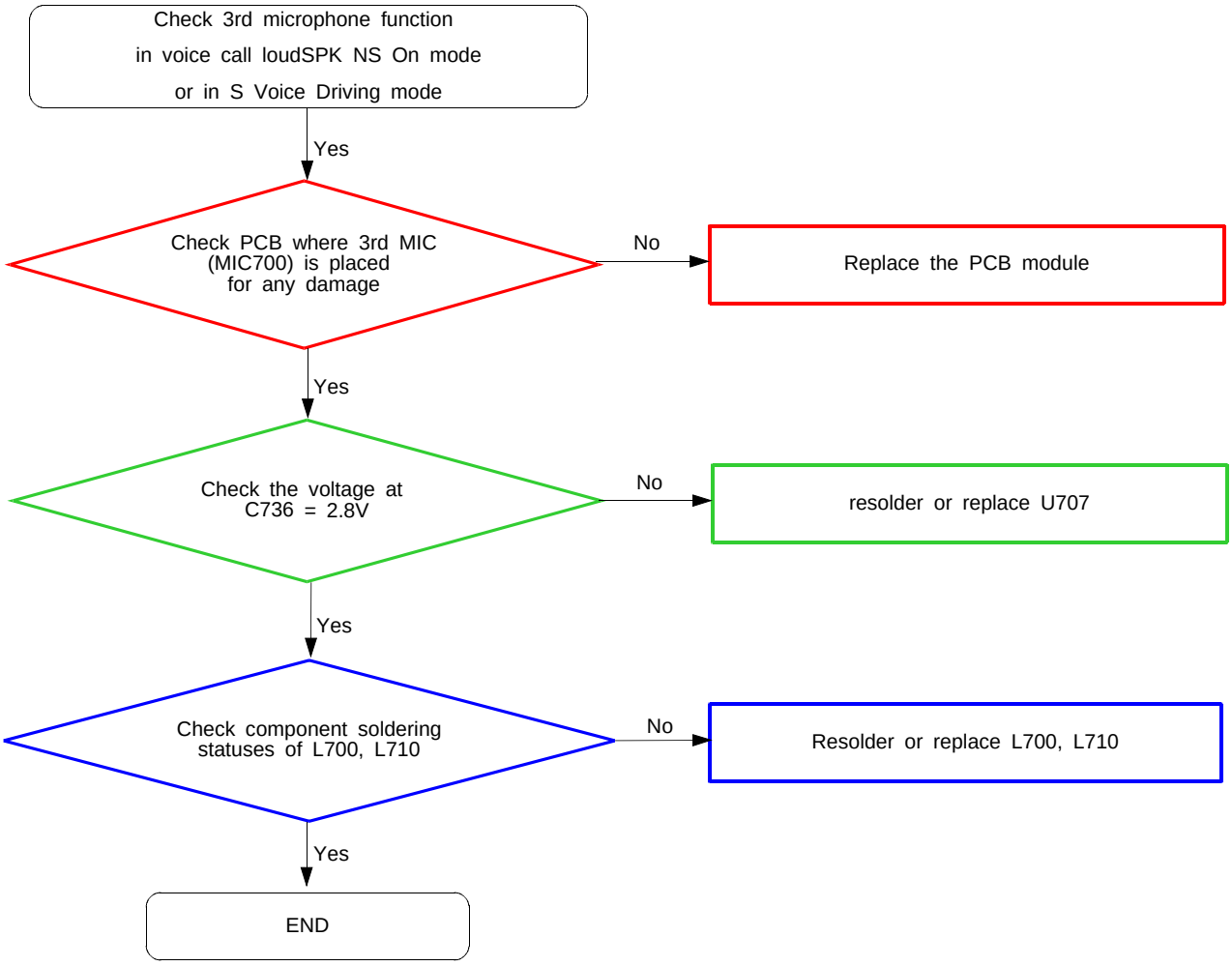
8-3-8-3. Microphone Part - 3rd MIC



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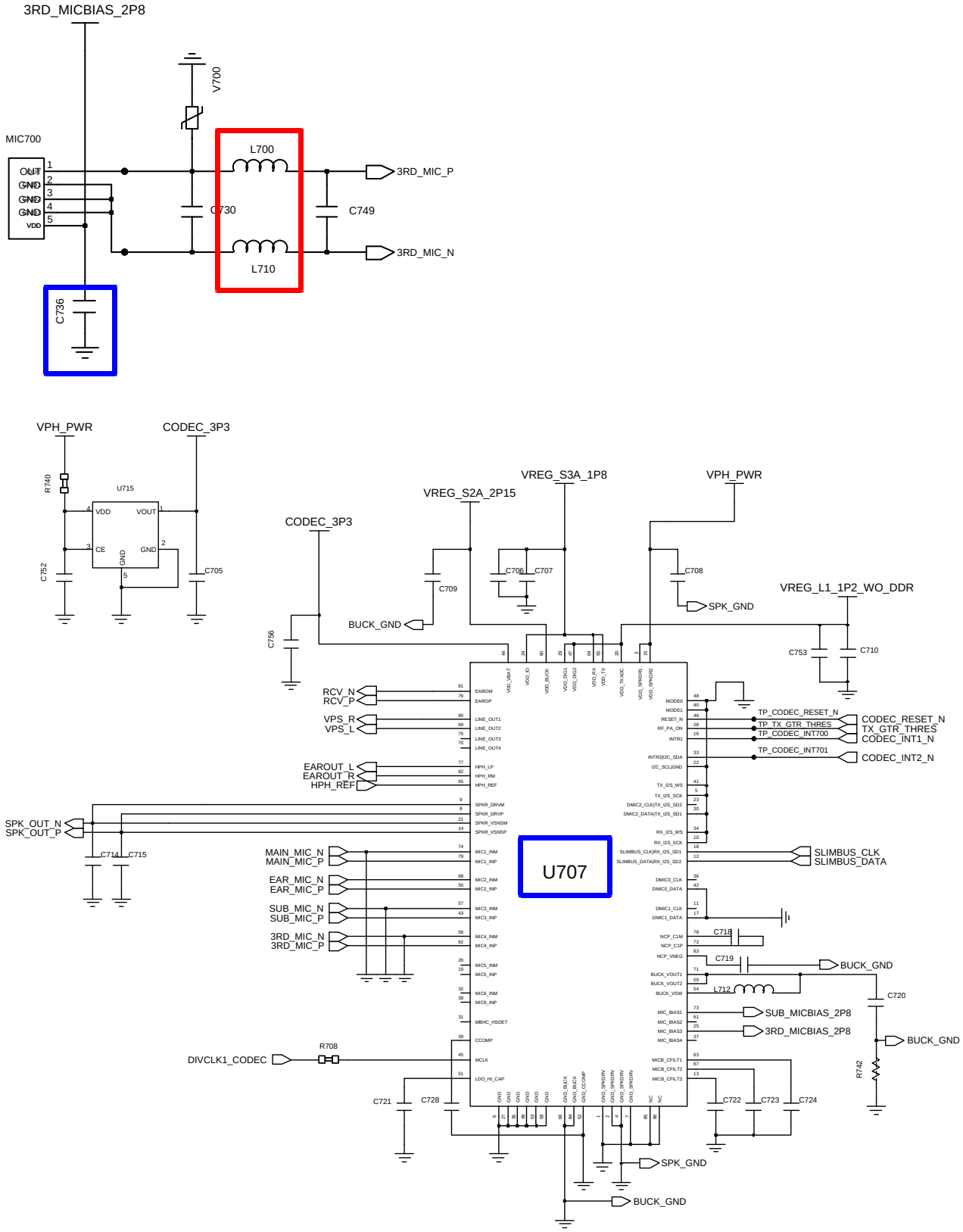

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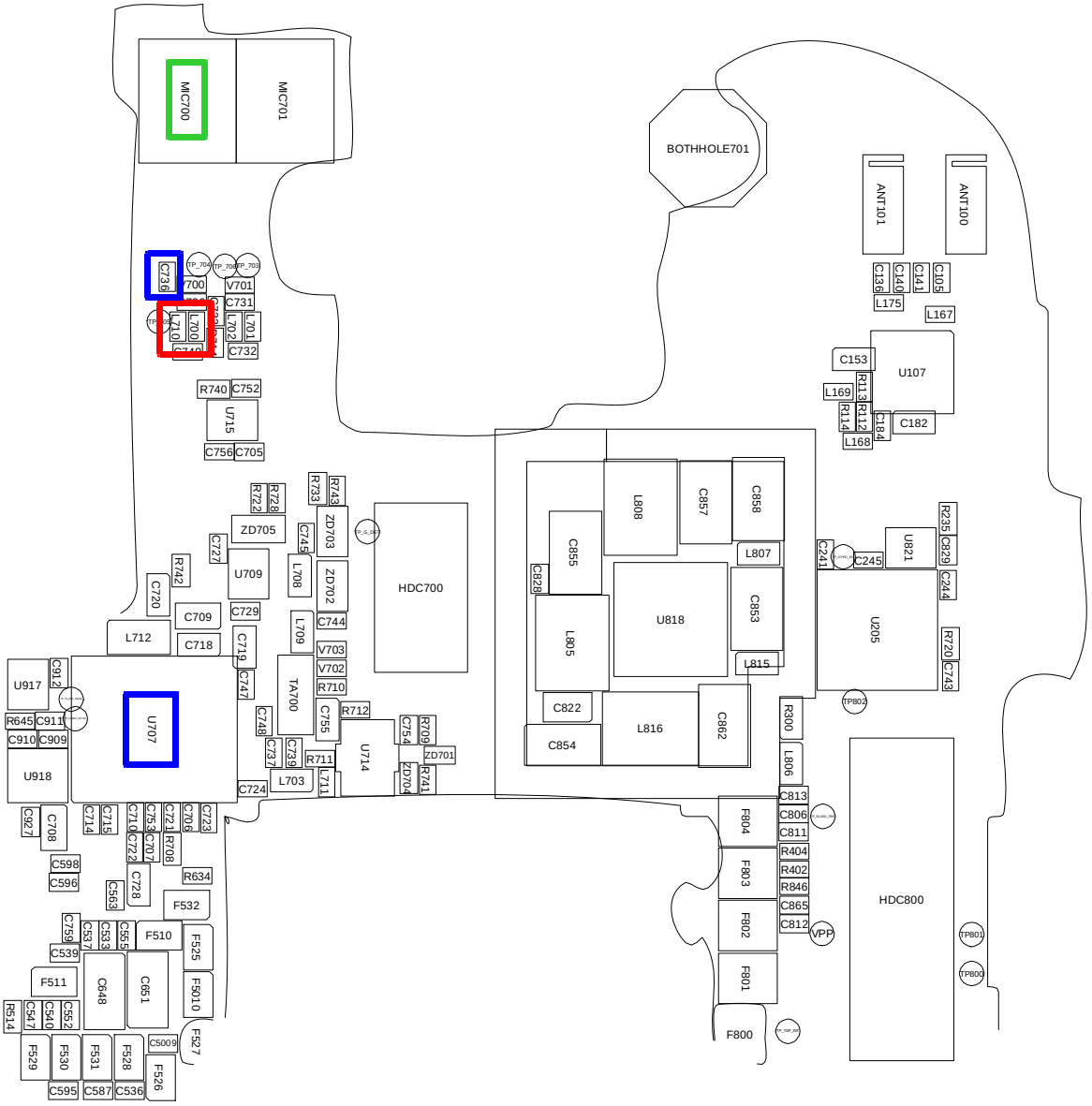

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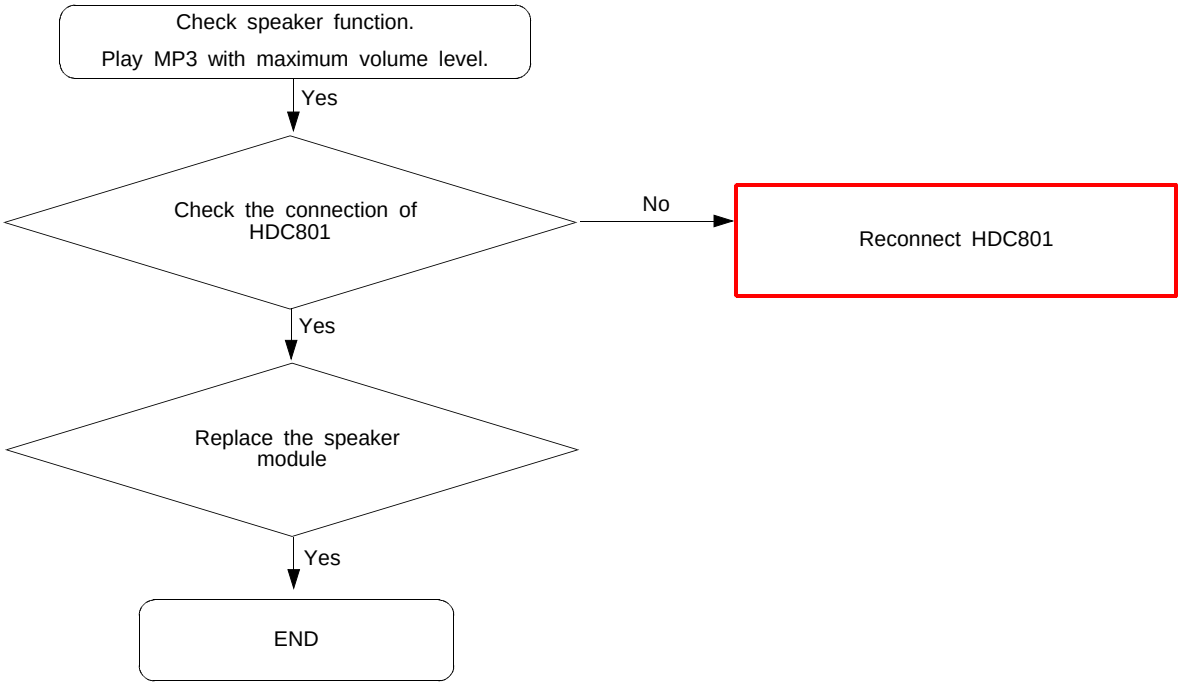
8-3-9. Speaker Part



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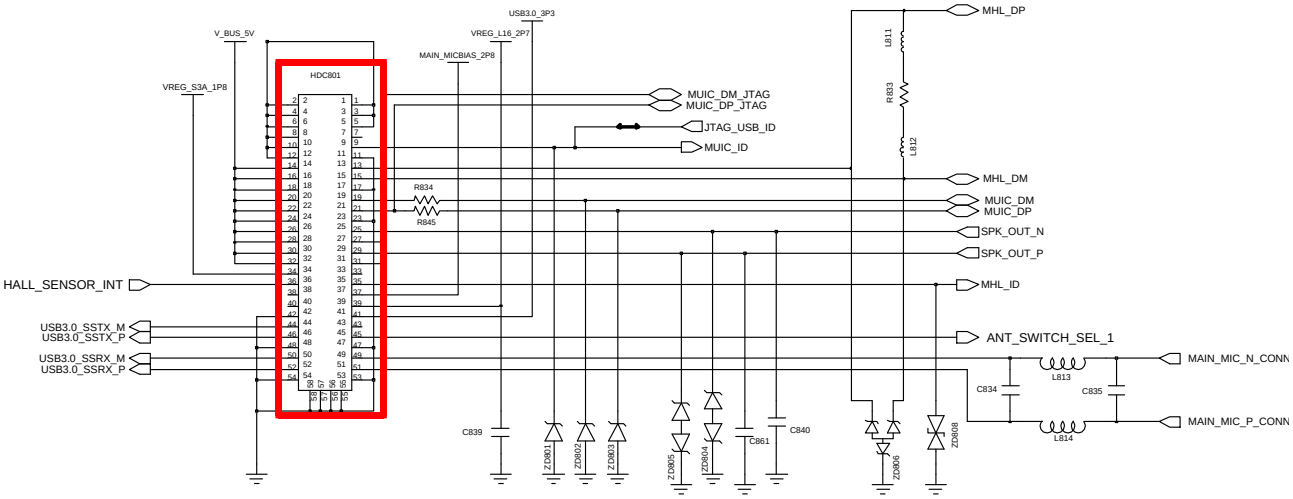

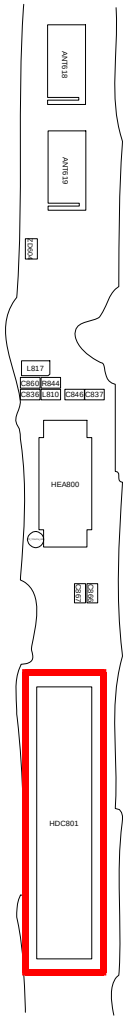

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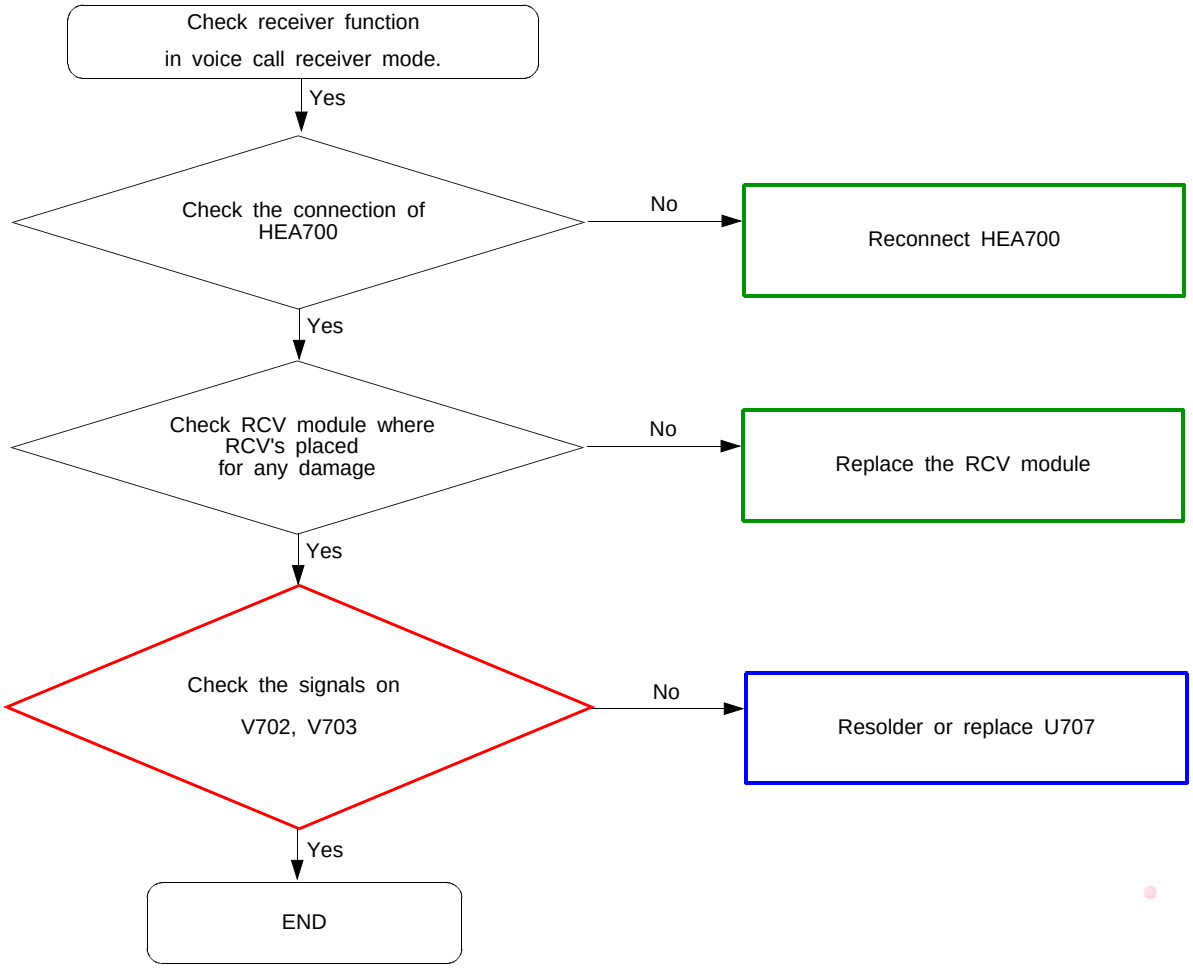
8-3-10. Receiver Part



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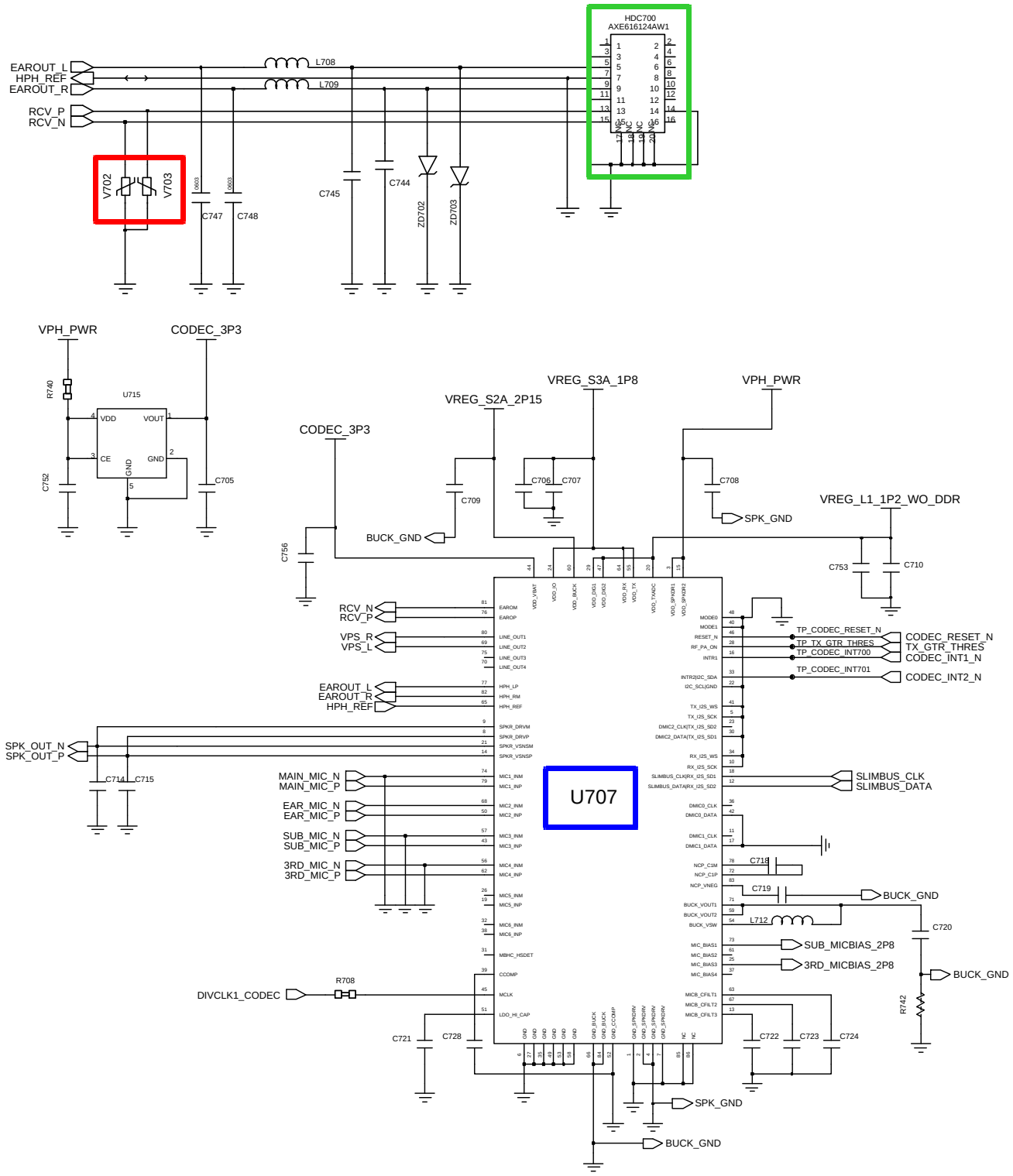

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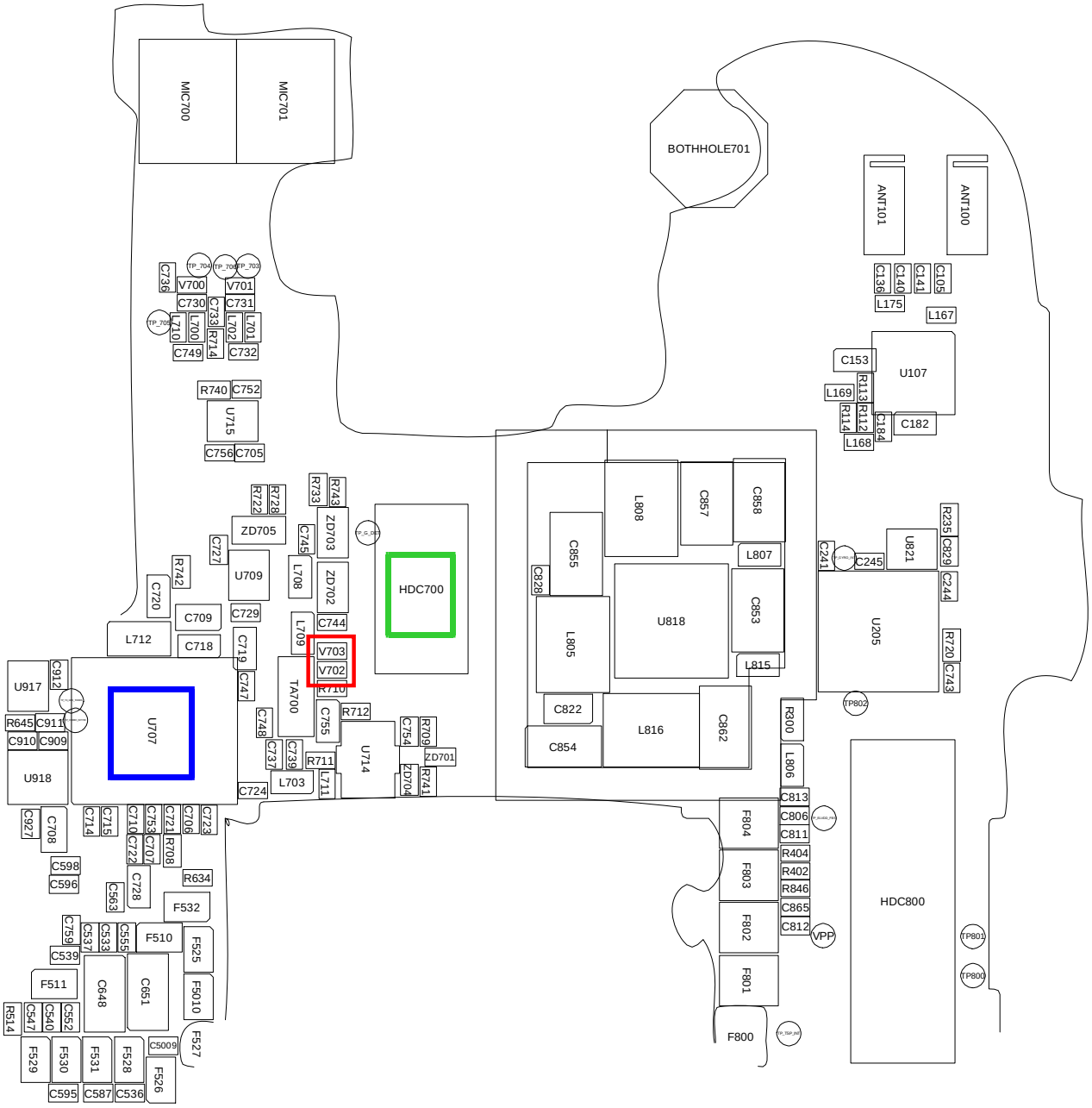

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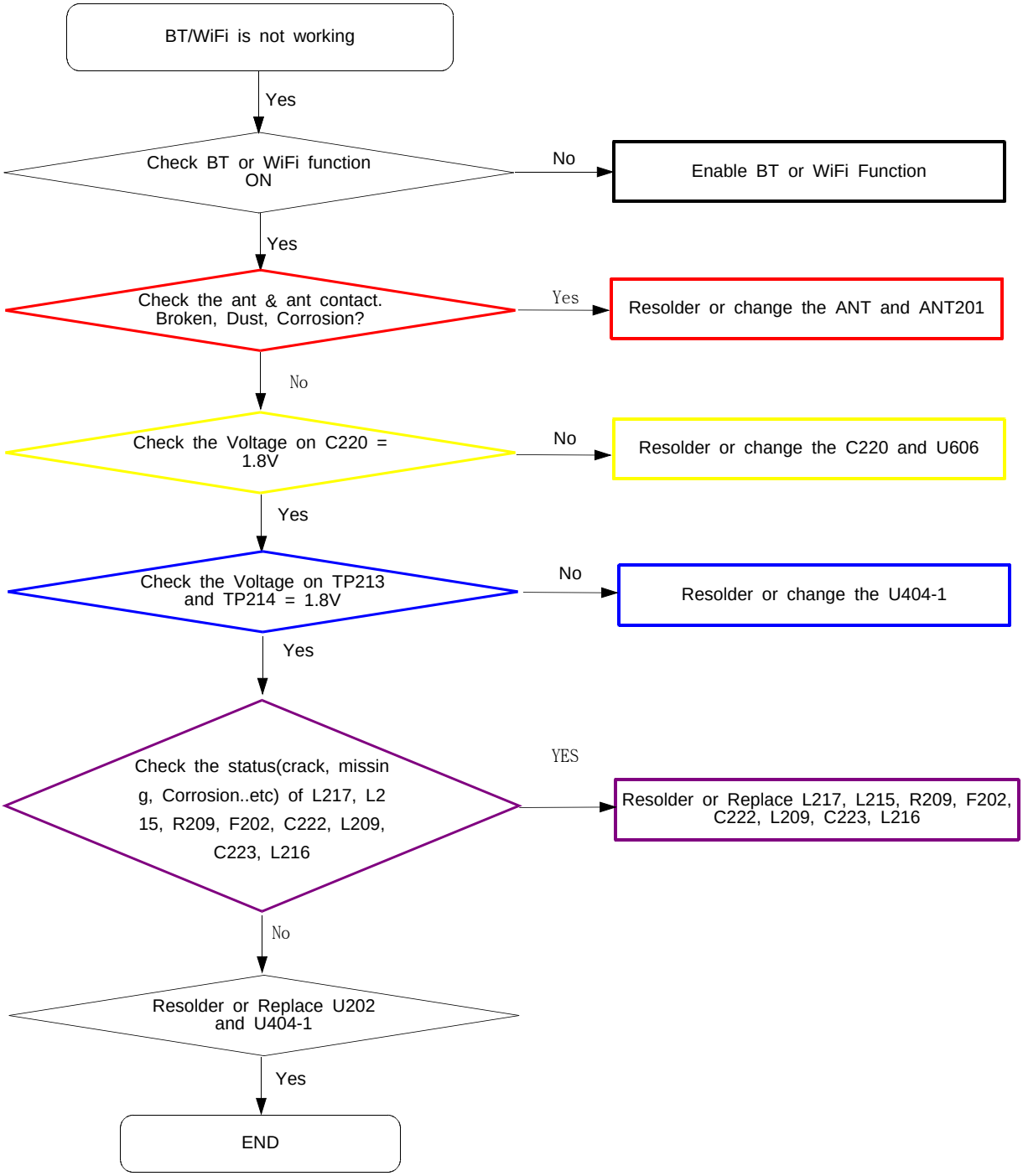
8-3-11. BT/WIFI


BT/WiFi is not working
Yes
Check BT or WiFi function ON
No
Enable BT or WiFi Function
Yes
Check the ant & ant contact. Broken, Dust, Corrosion?
Yes
Resolder or change the ANT and ANT201
No
Check the Voltage on C220 = 1.8V
No
Resolder or change the C220 and U606
Yes
Check the Voltage on TP213 and TP214 = 1.8V
No
Resolder or change the U404-1
Yes
Check the status(crack, missing, Corrosion..etc) of L217, L215, R209, F202, C222, L209, C223, L216
YES
Resolder or Replace L217, L215, R209, F202, C222, L209, C223, L216
No
Resolder or Replace U202 and U404-1
Yes
END

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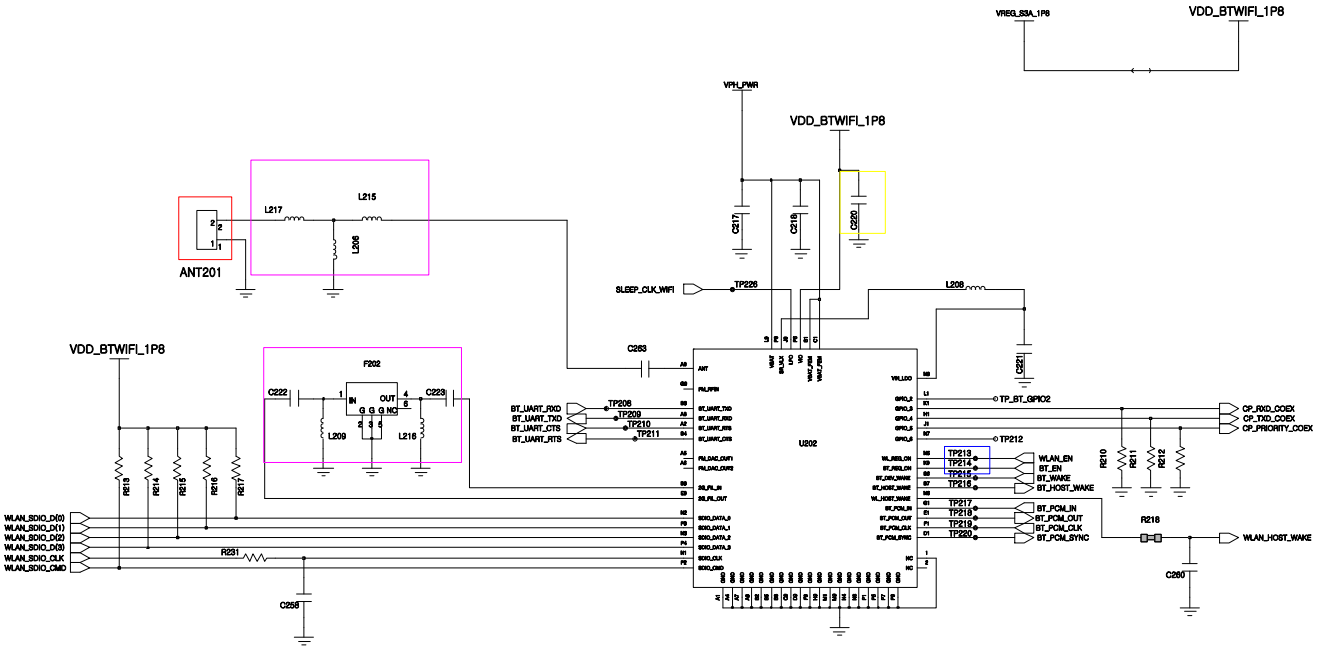

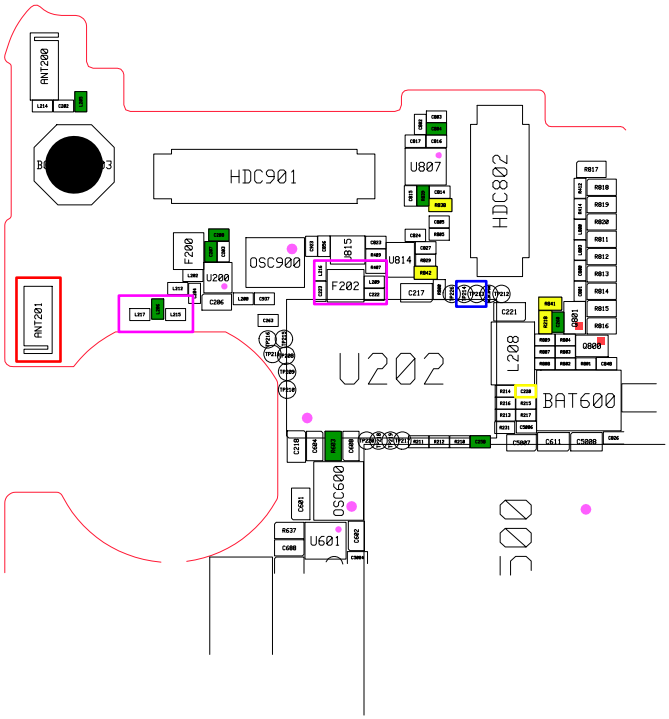

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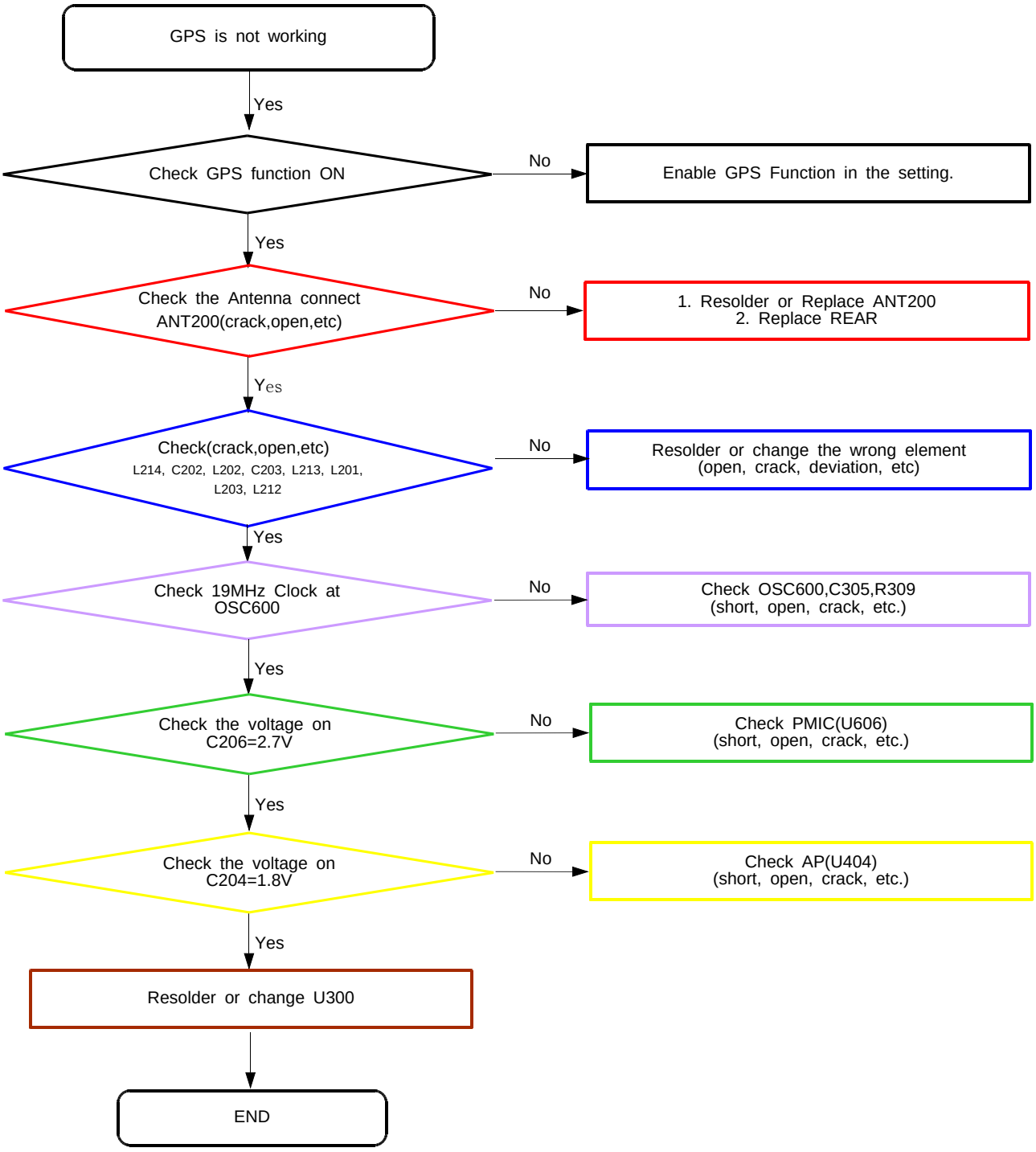
8-3-12. GPS



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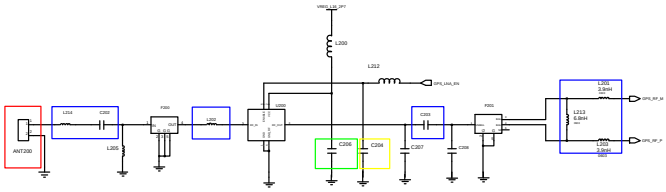

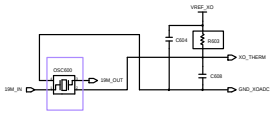

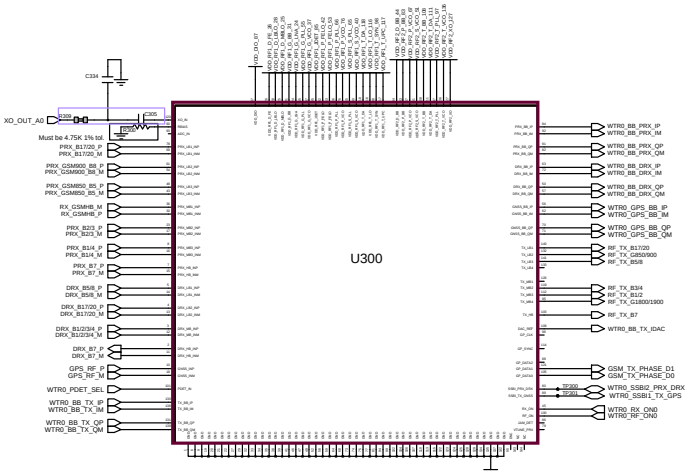

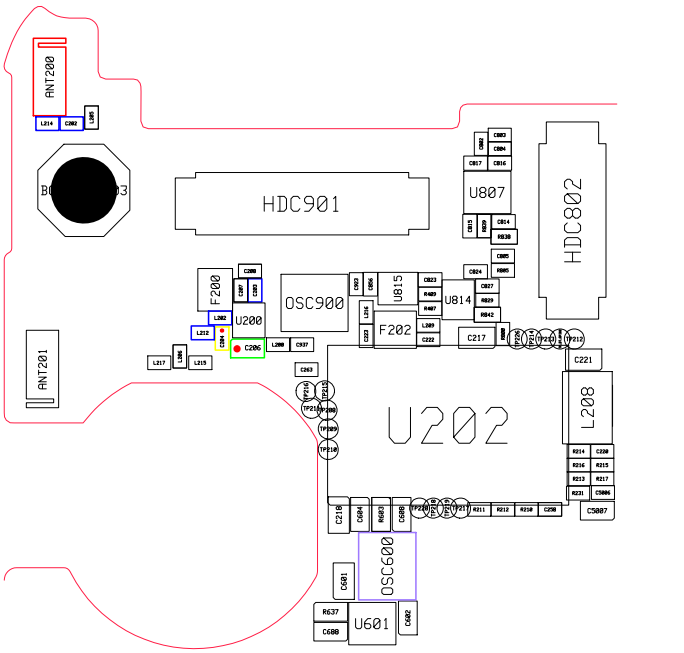

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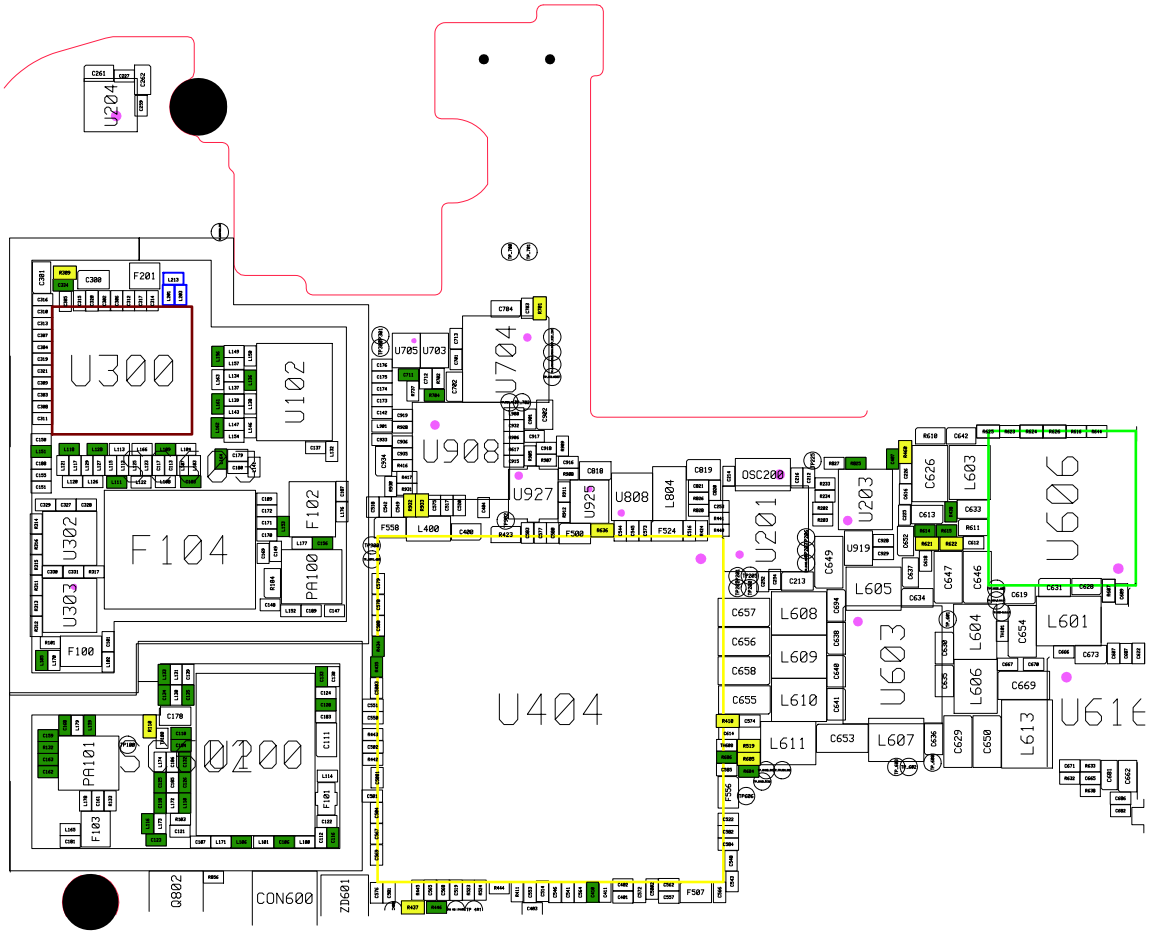

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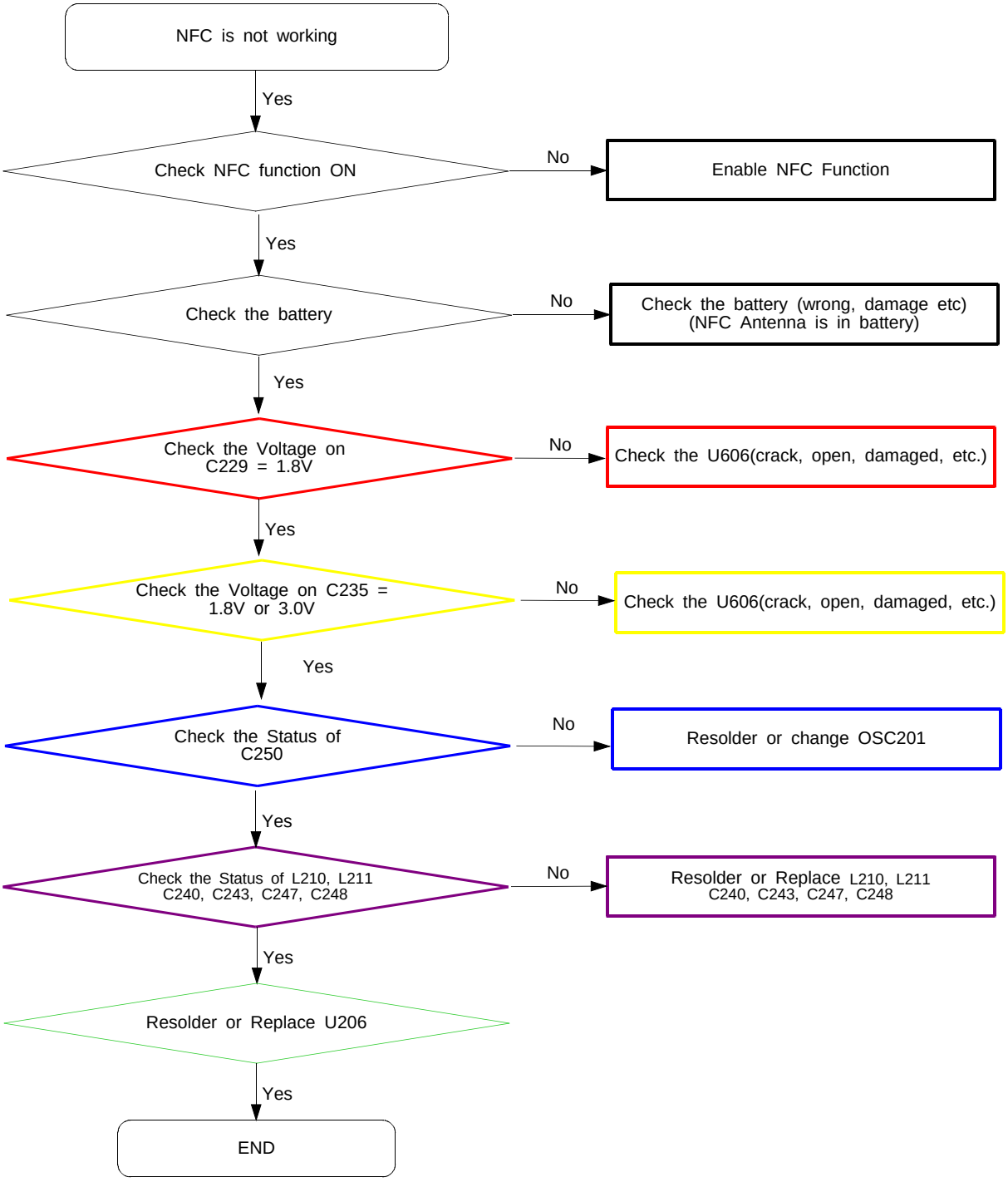
8-3-13. NFC



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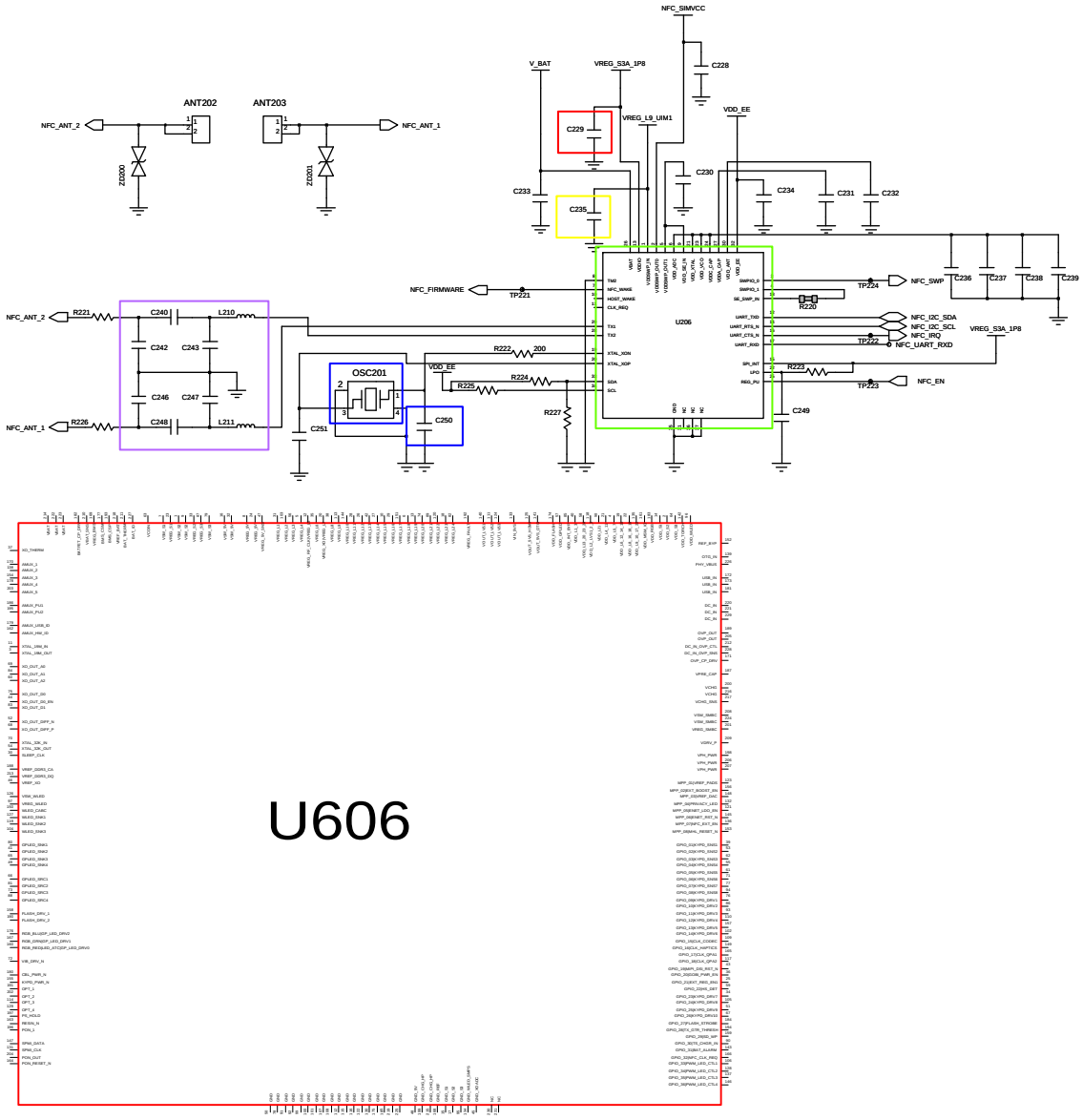

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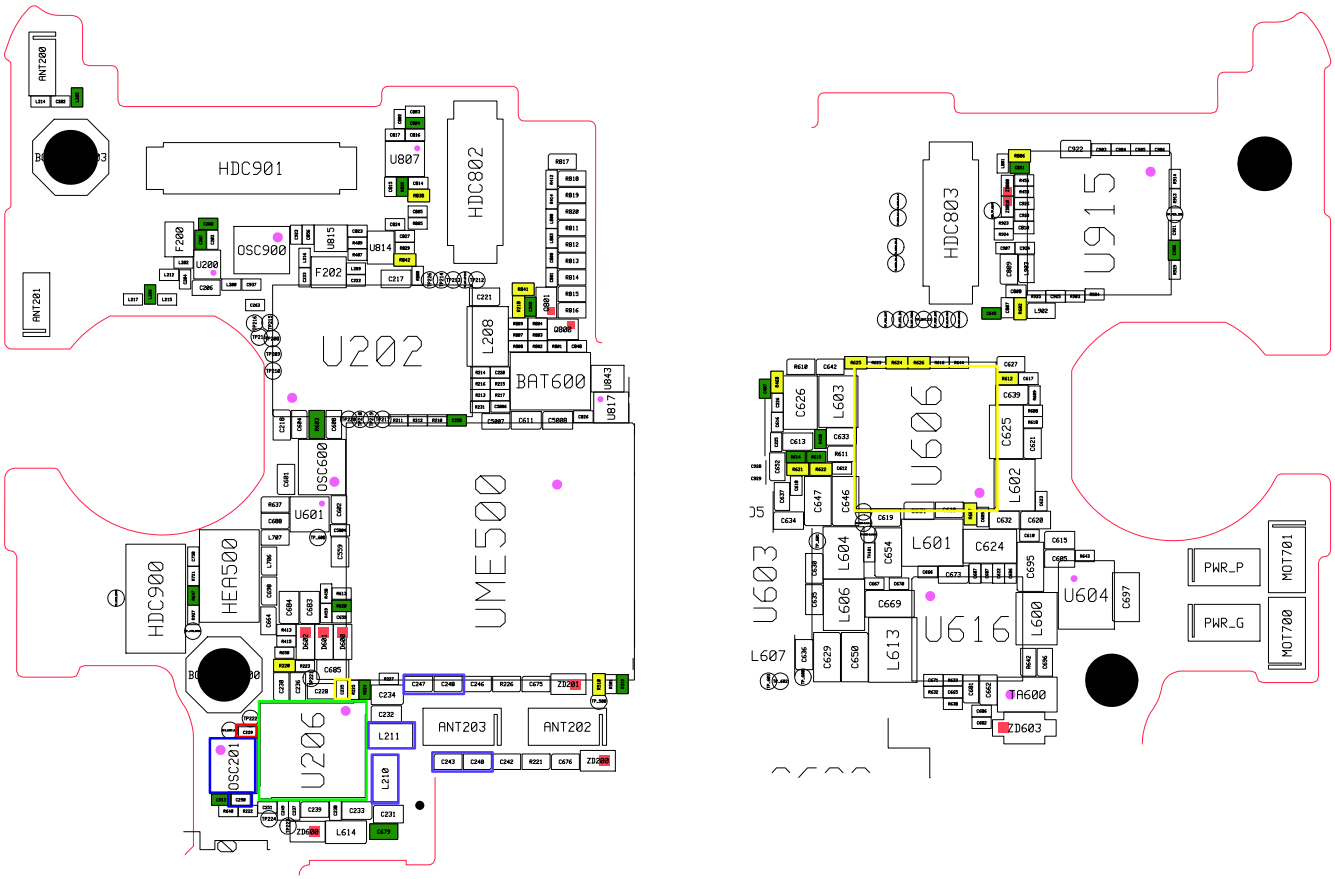

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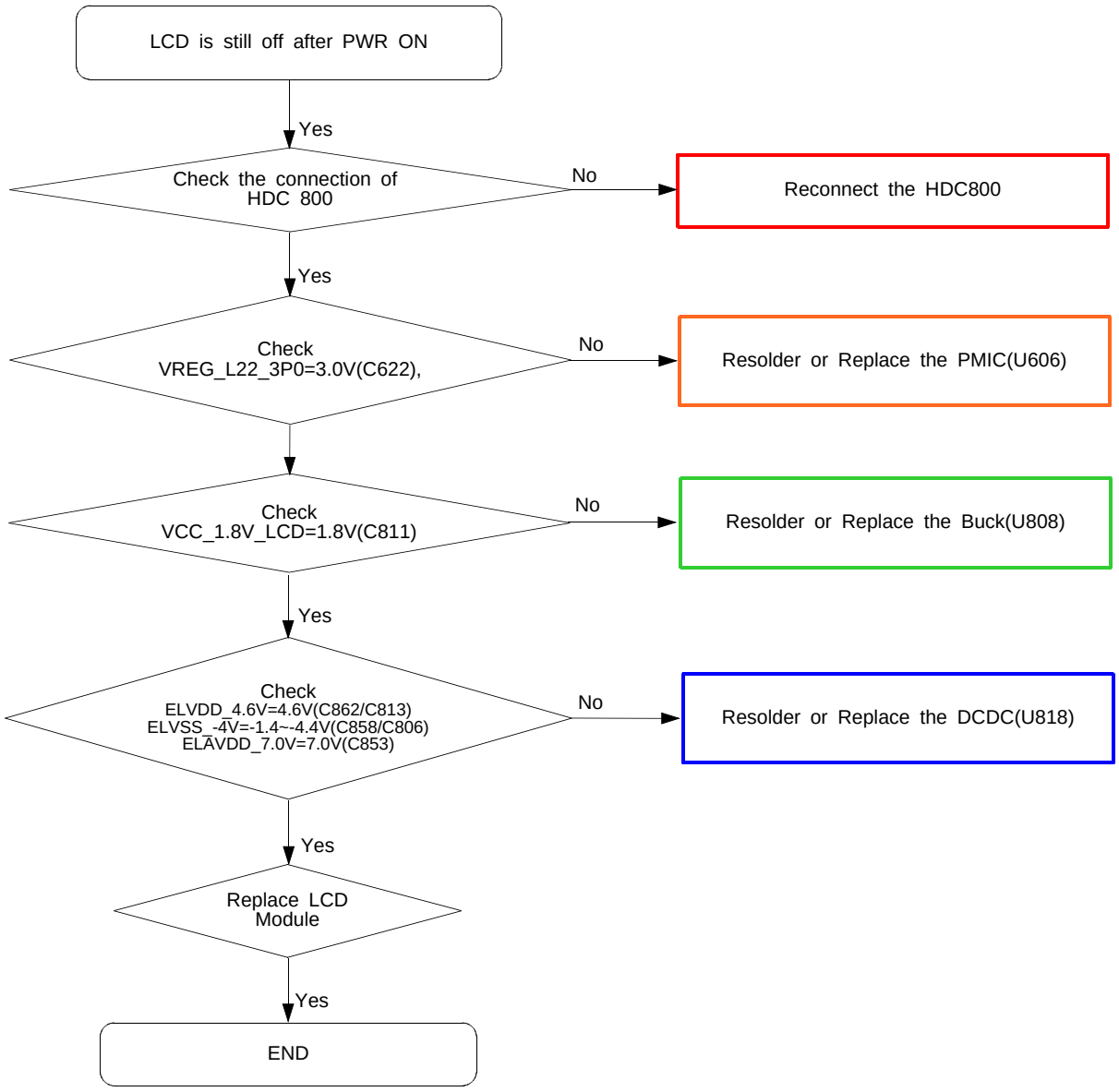
8-3-14. LCD



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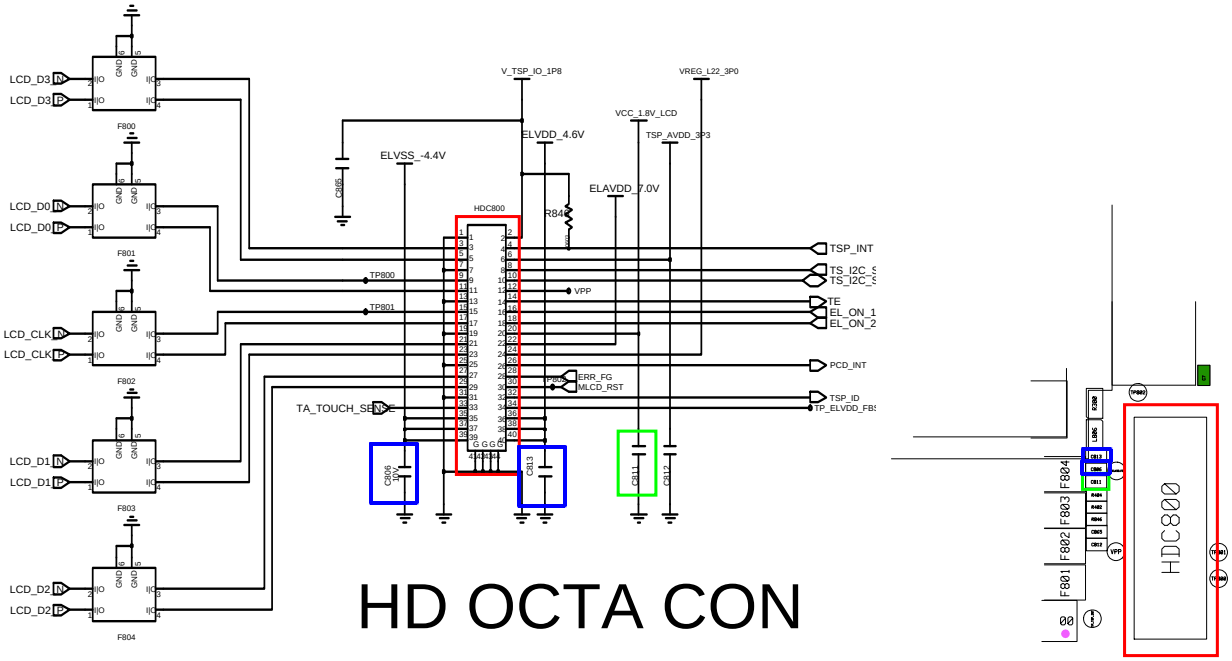

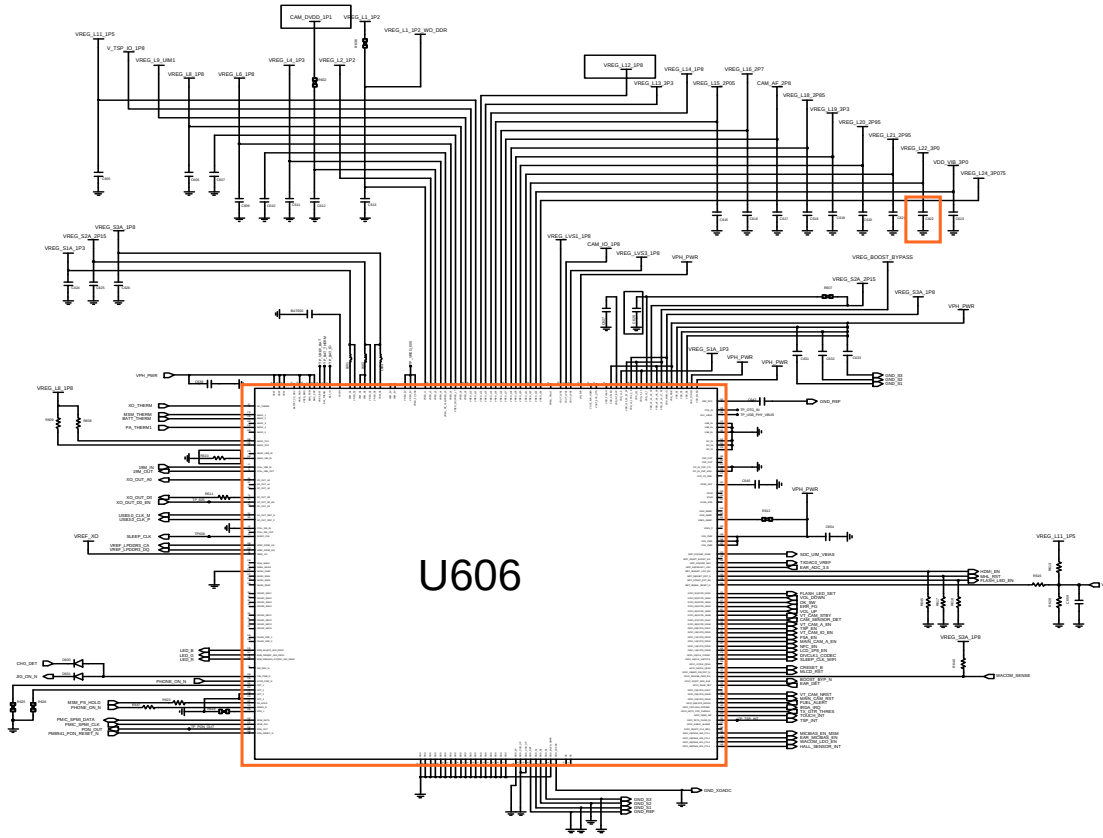

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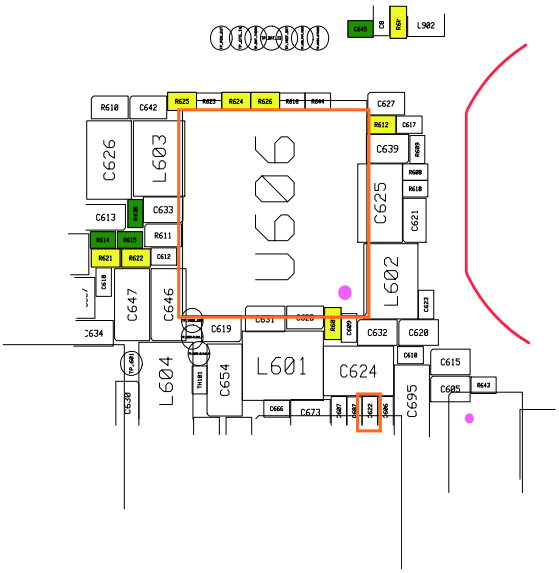

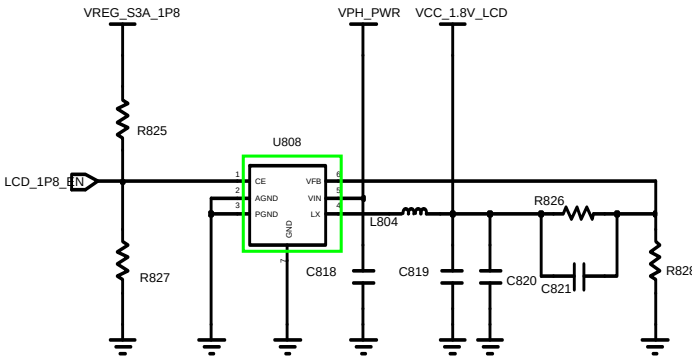

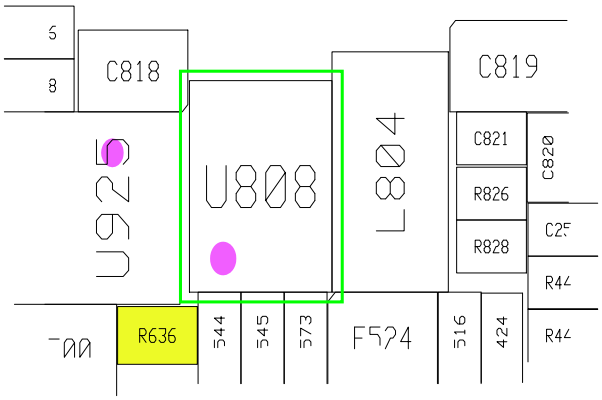

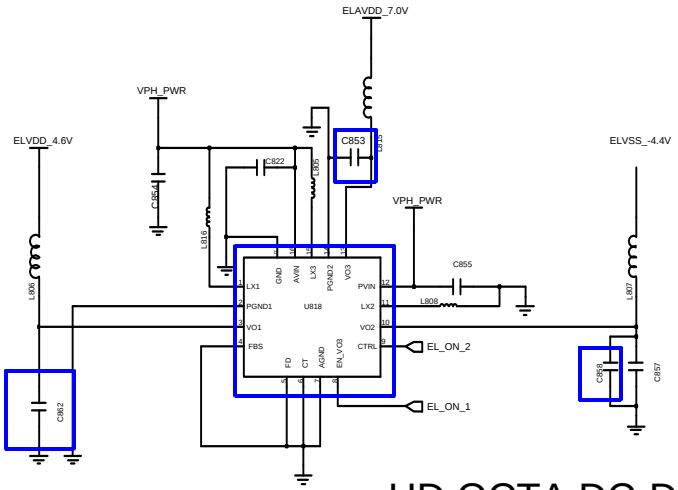

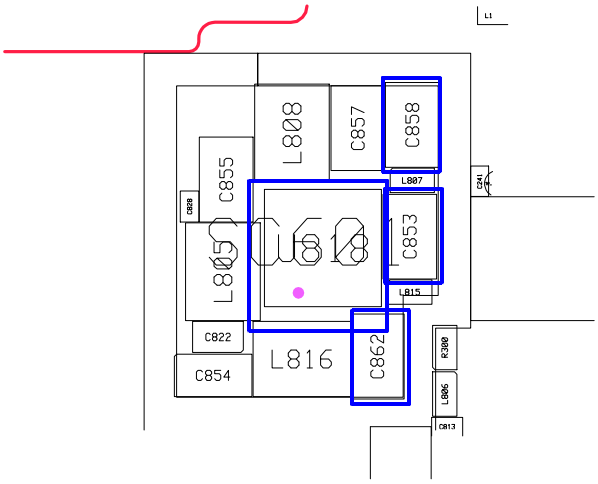

HD OCTA DC-D

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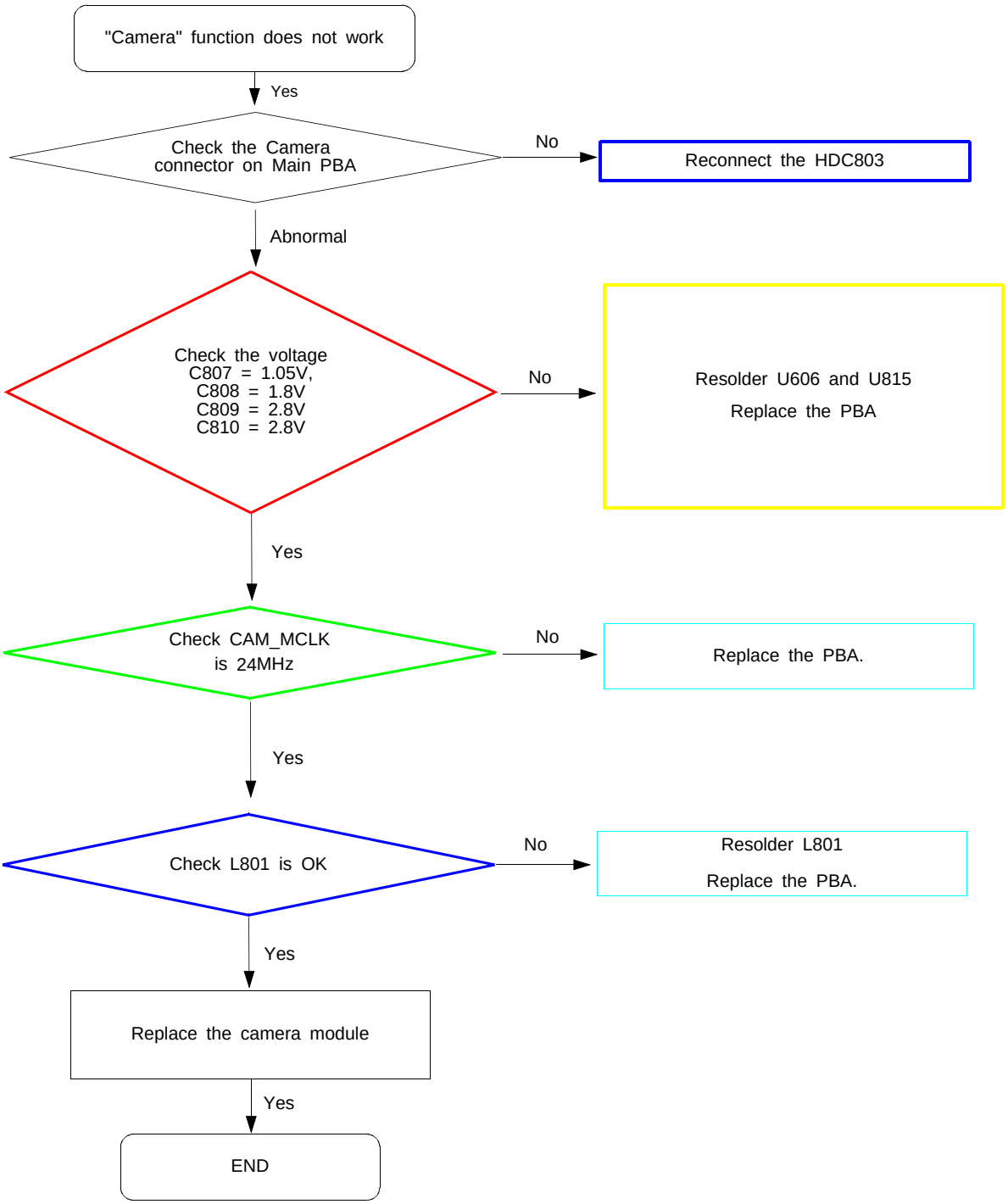
8-3-15. 13M CAM



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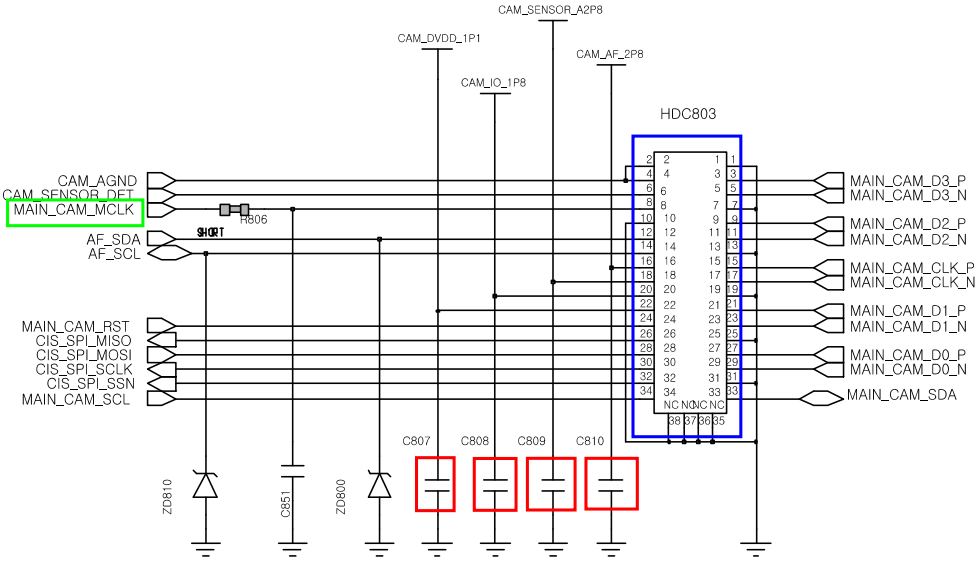

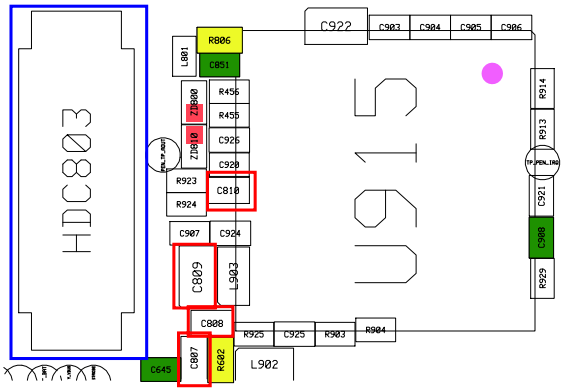

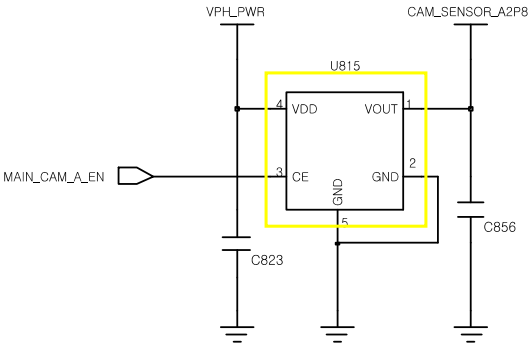

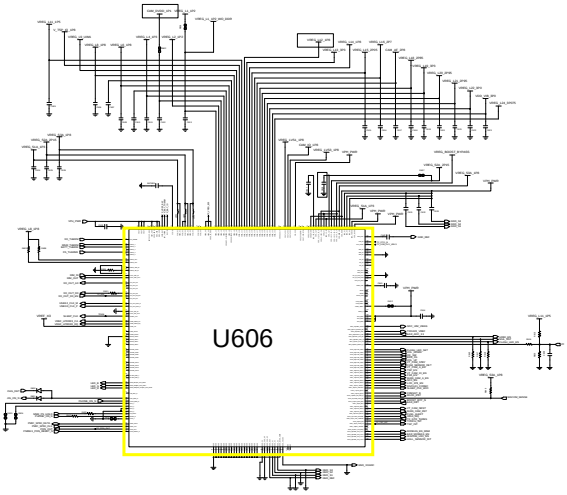

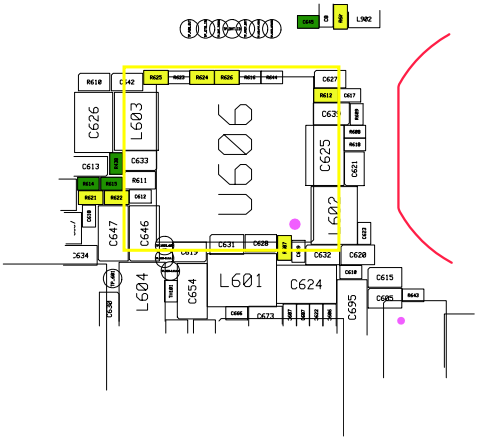

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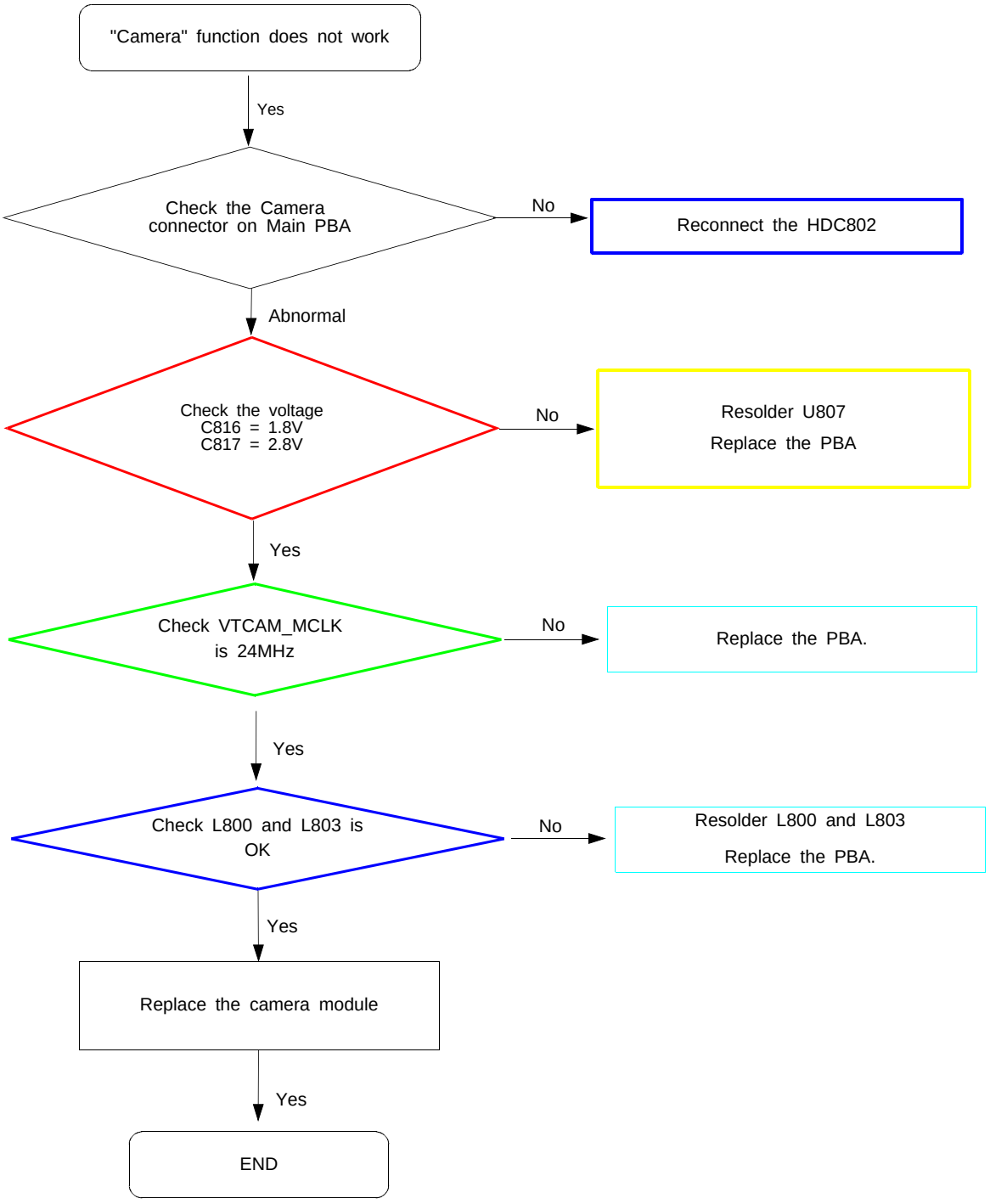
8-3-16. VT CAM



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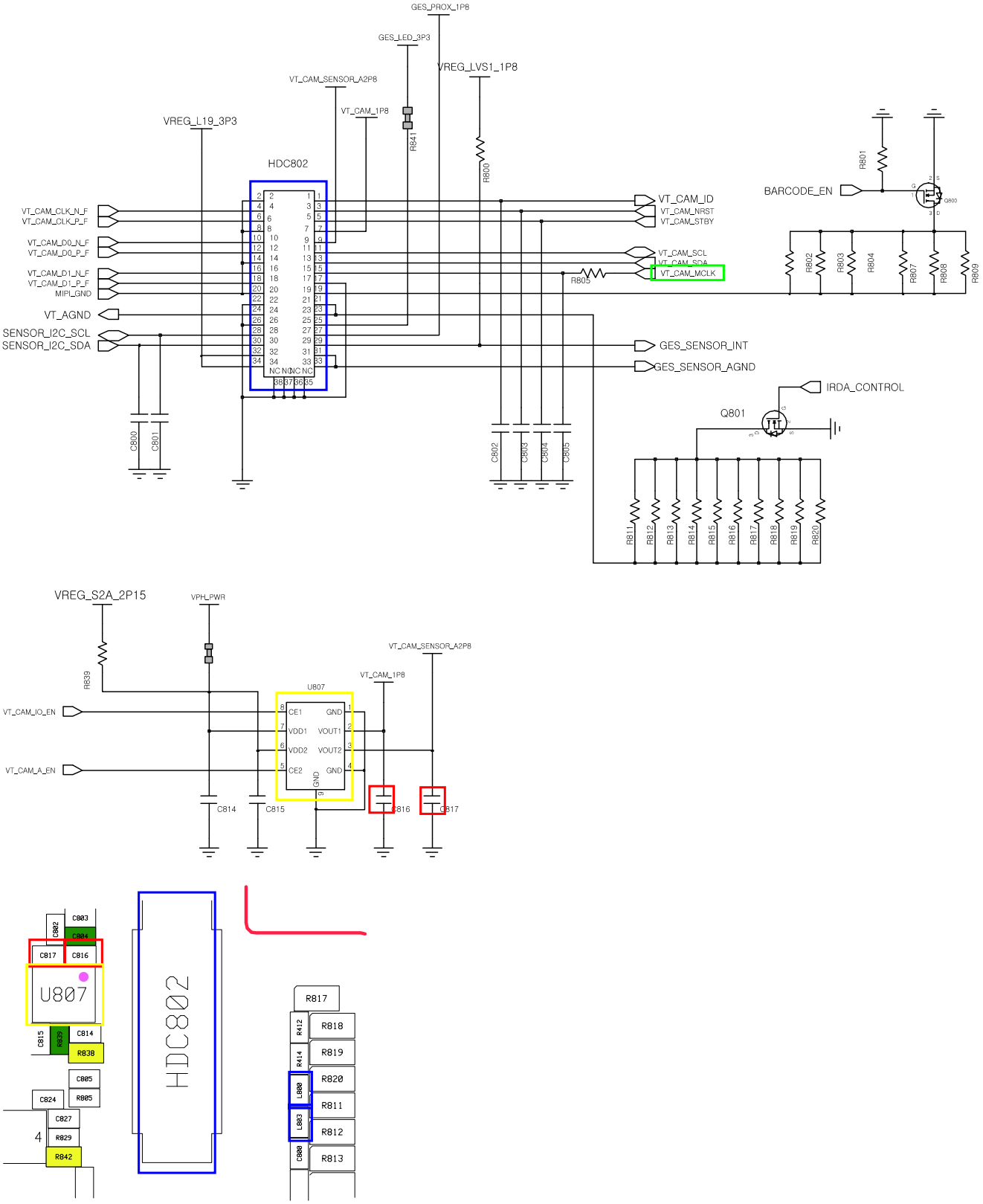

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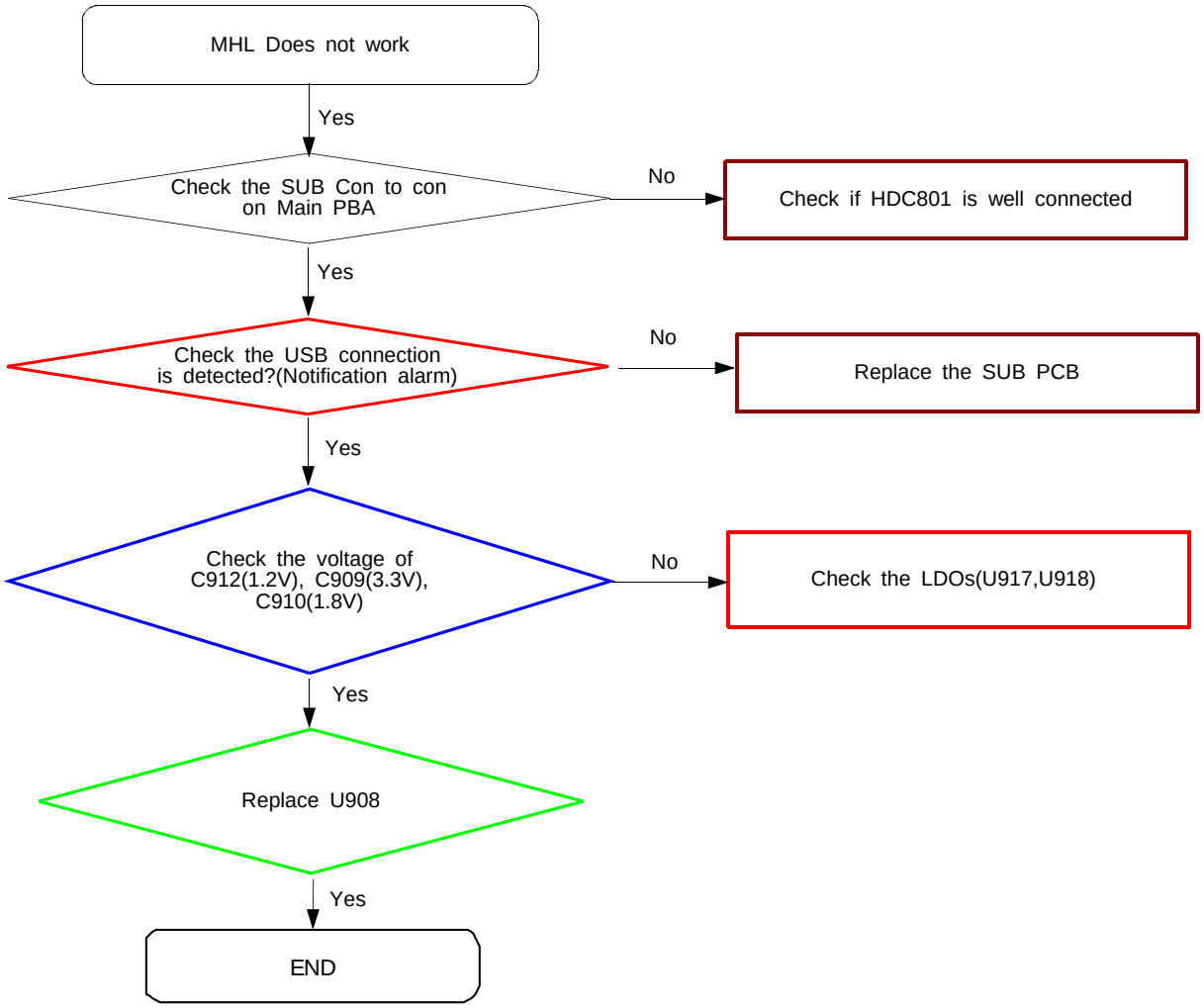
8-3-17. MHL



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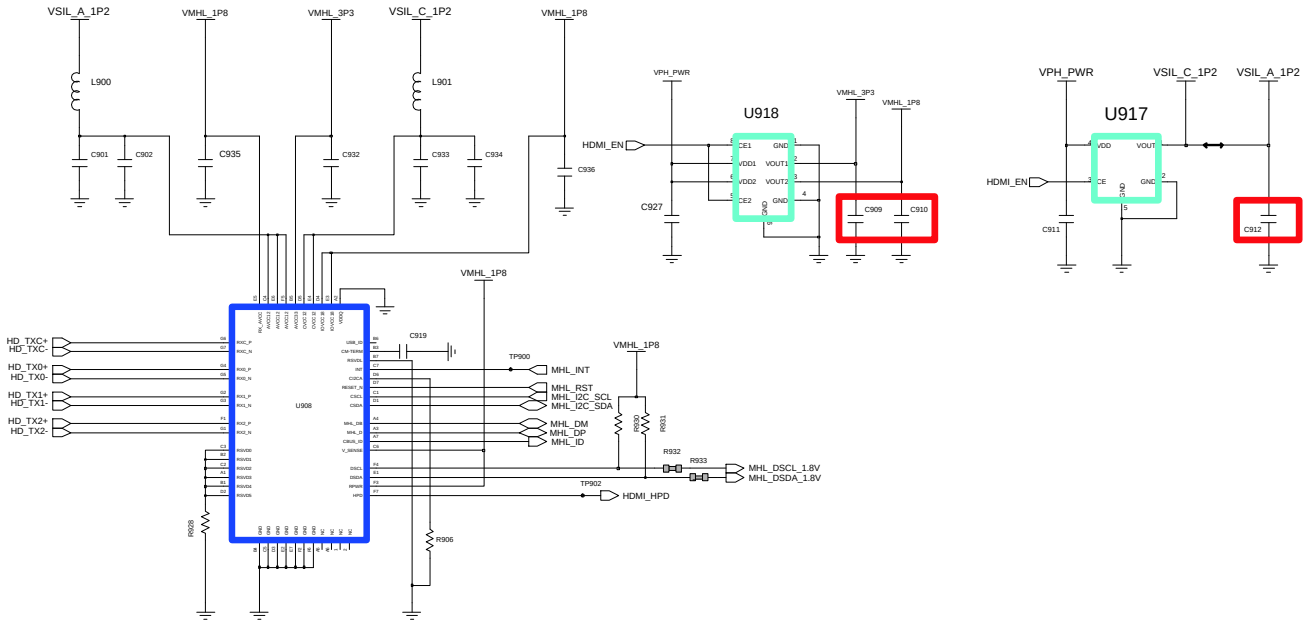

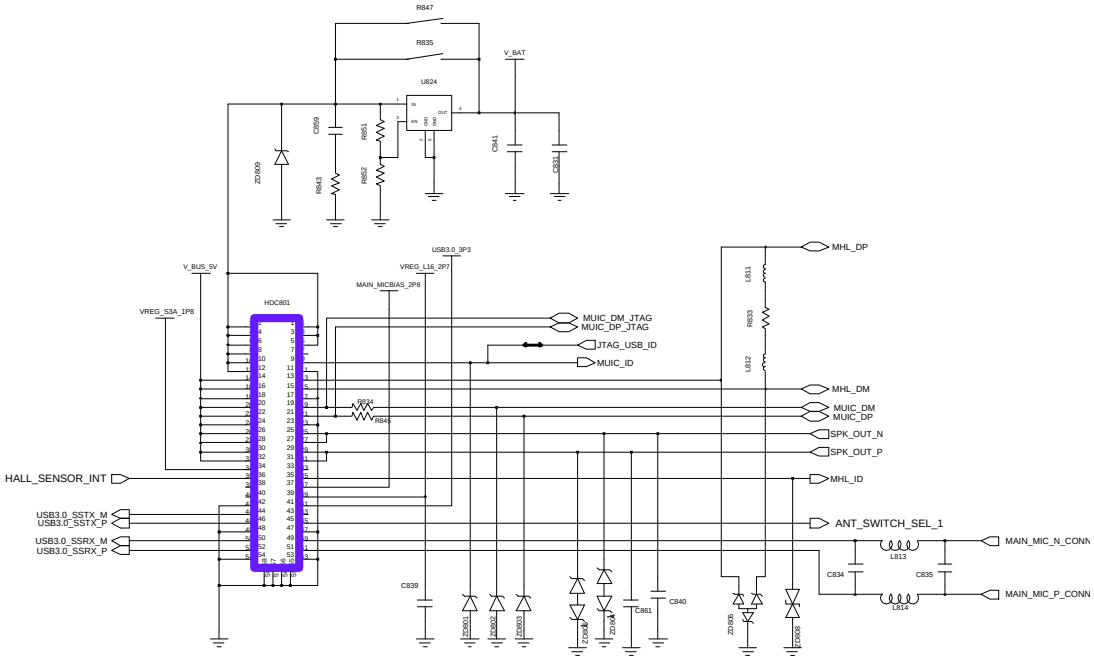

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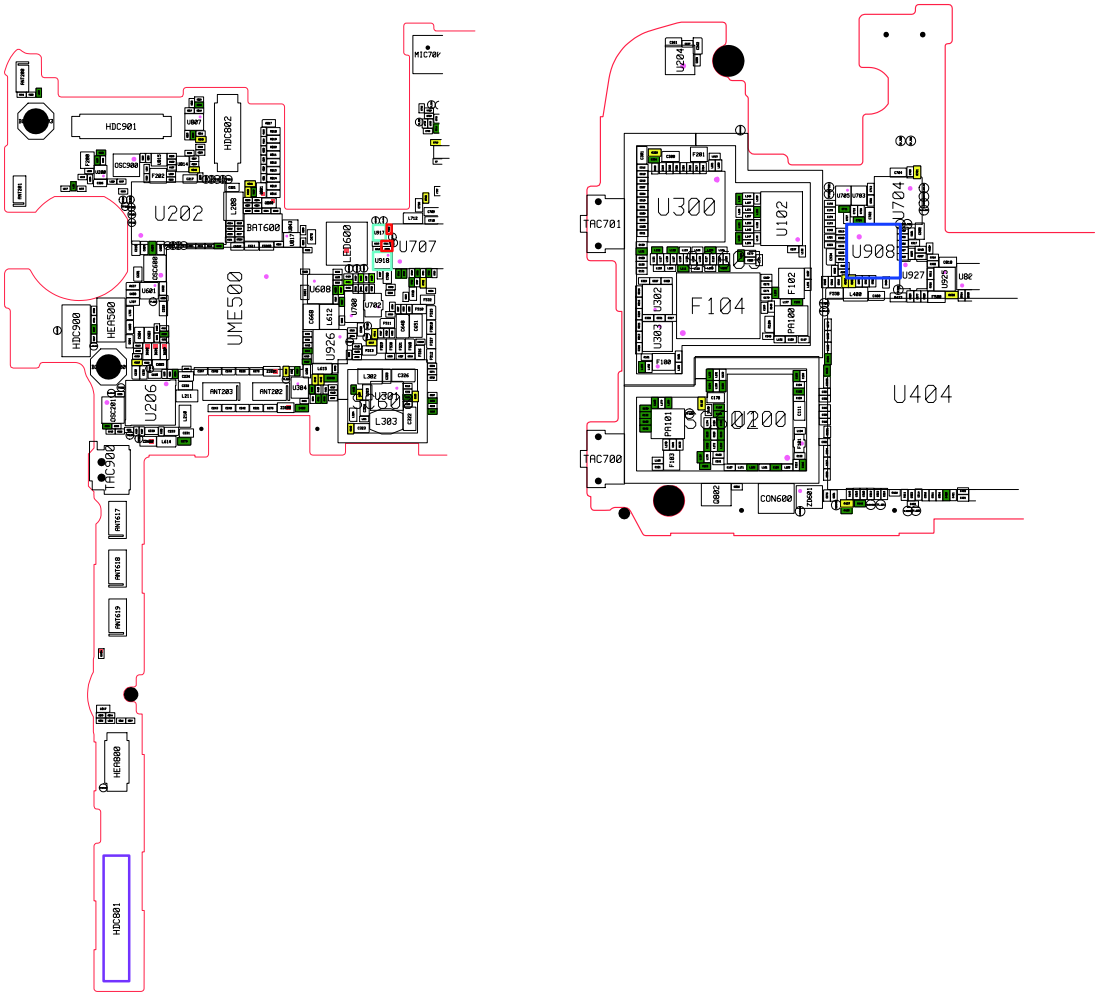

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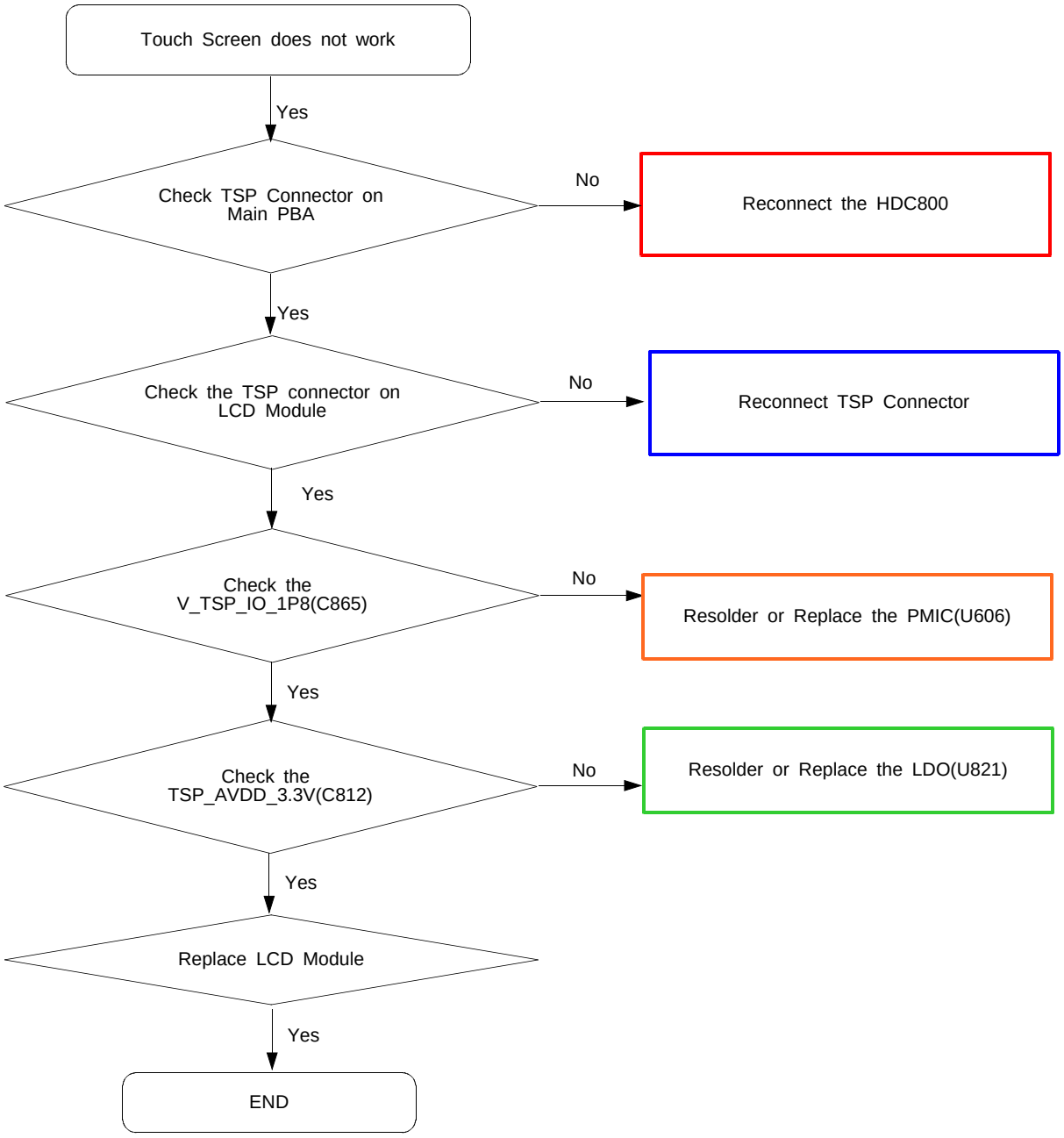
8-3-18. TSP



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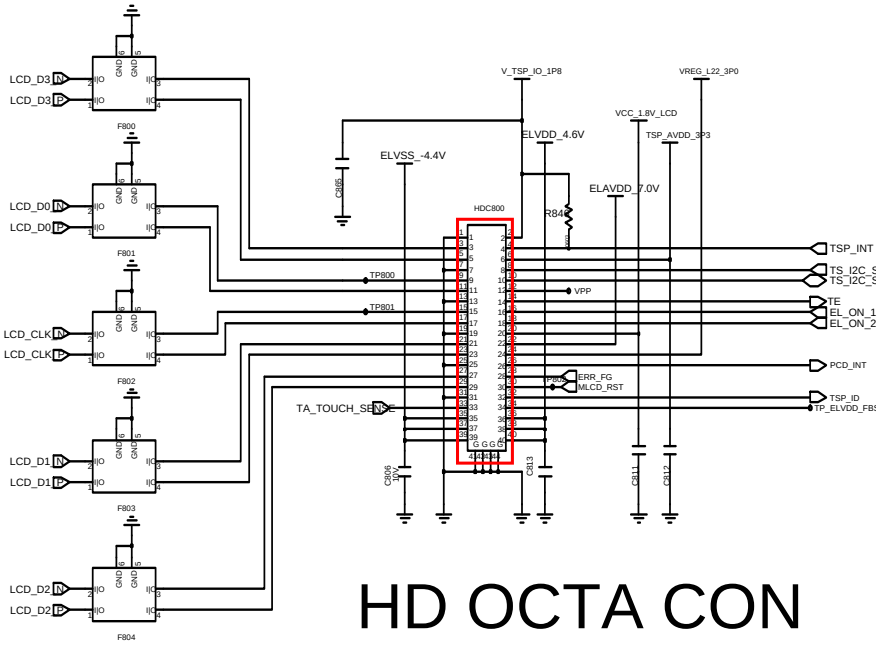
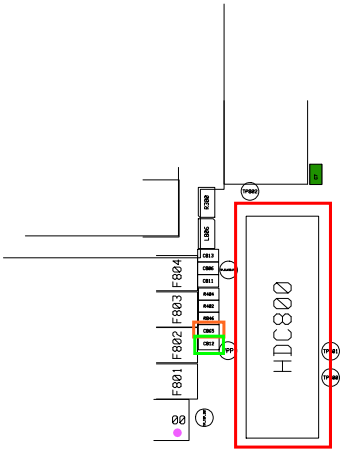
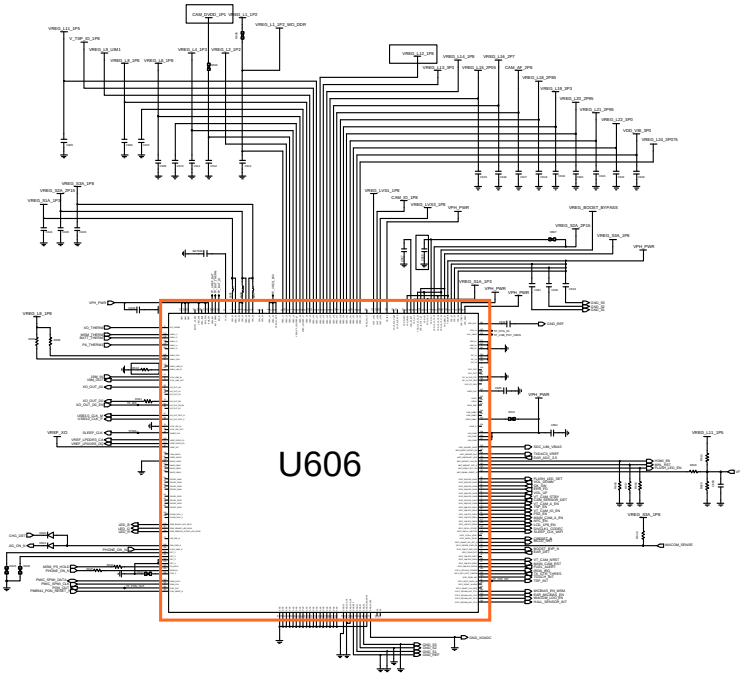
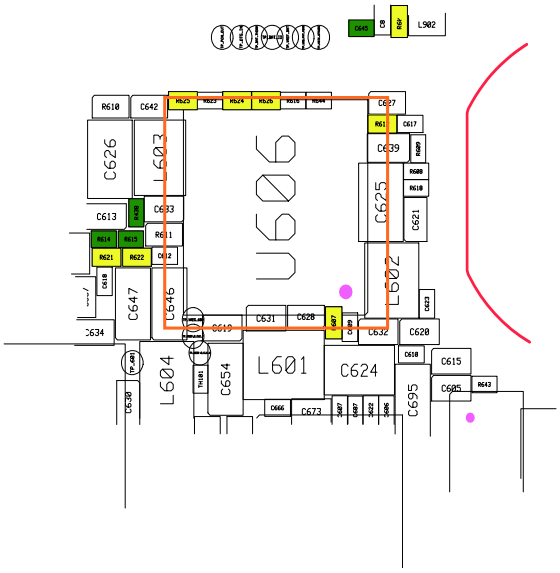


HD OCTA CON







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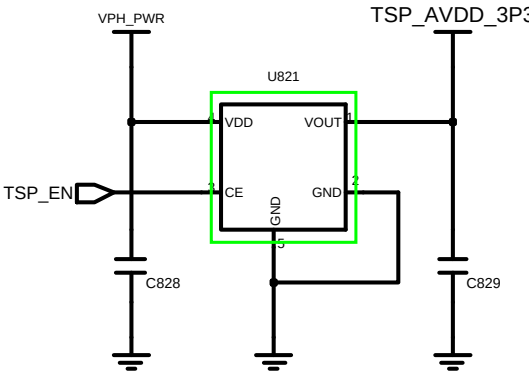

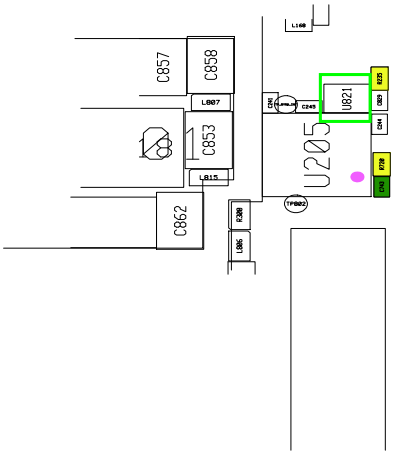

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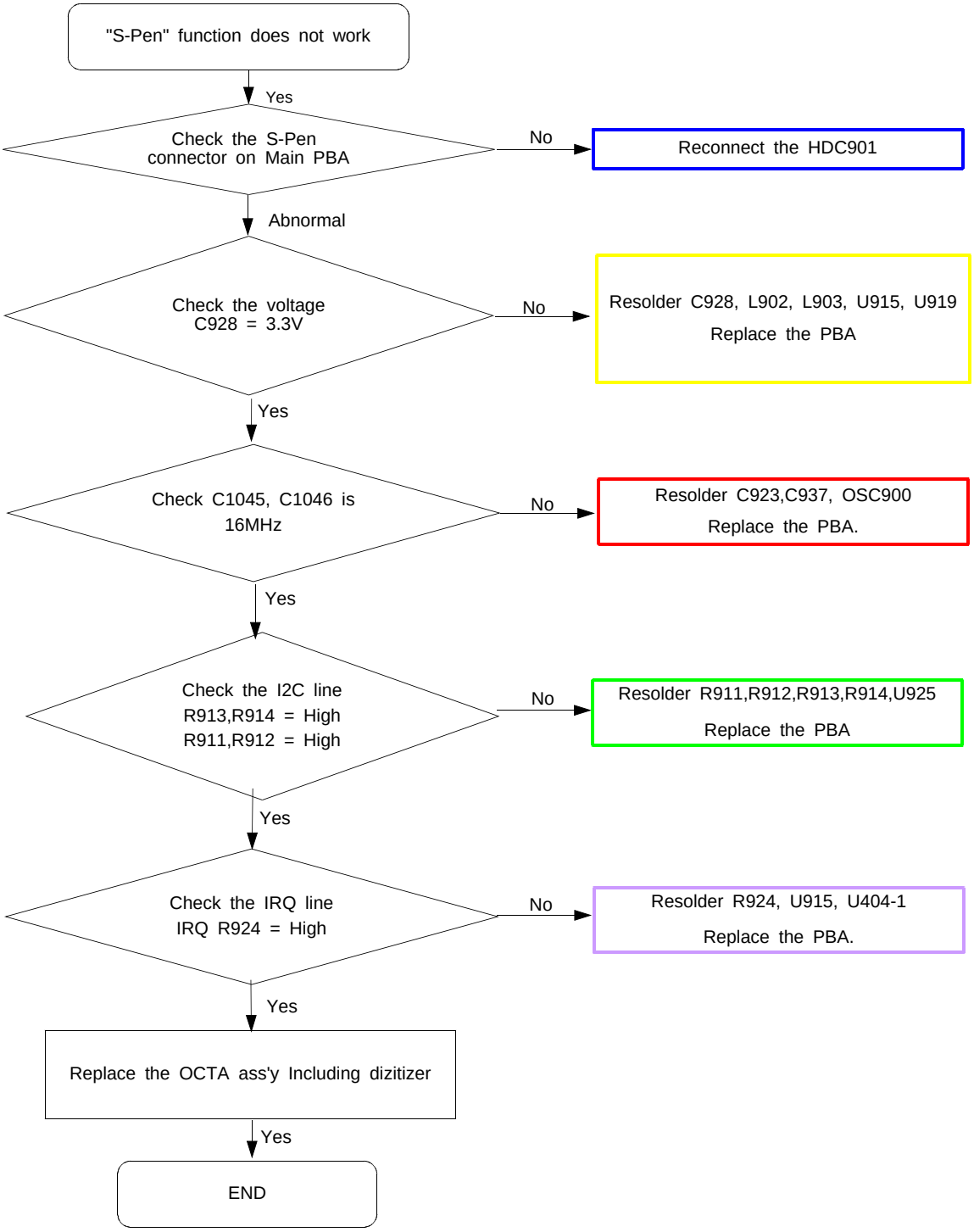
8-3-19. S-pen



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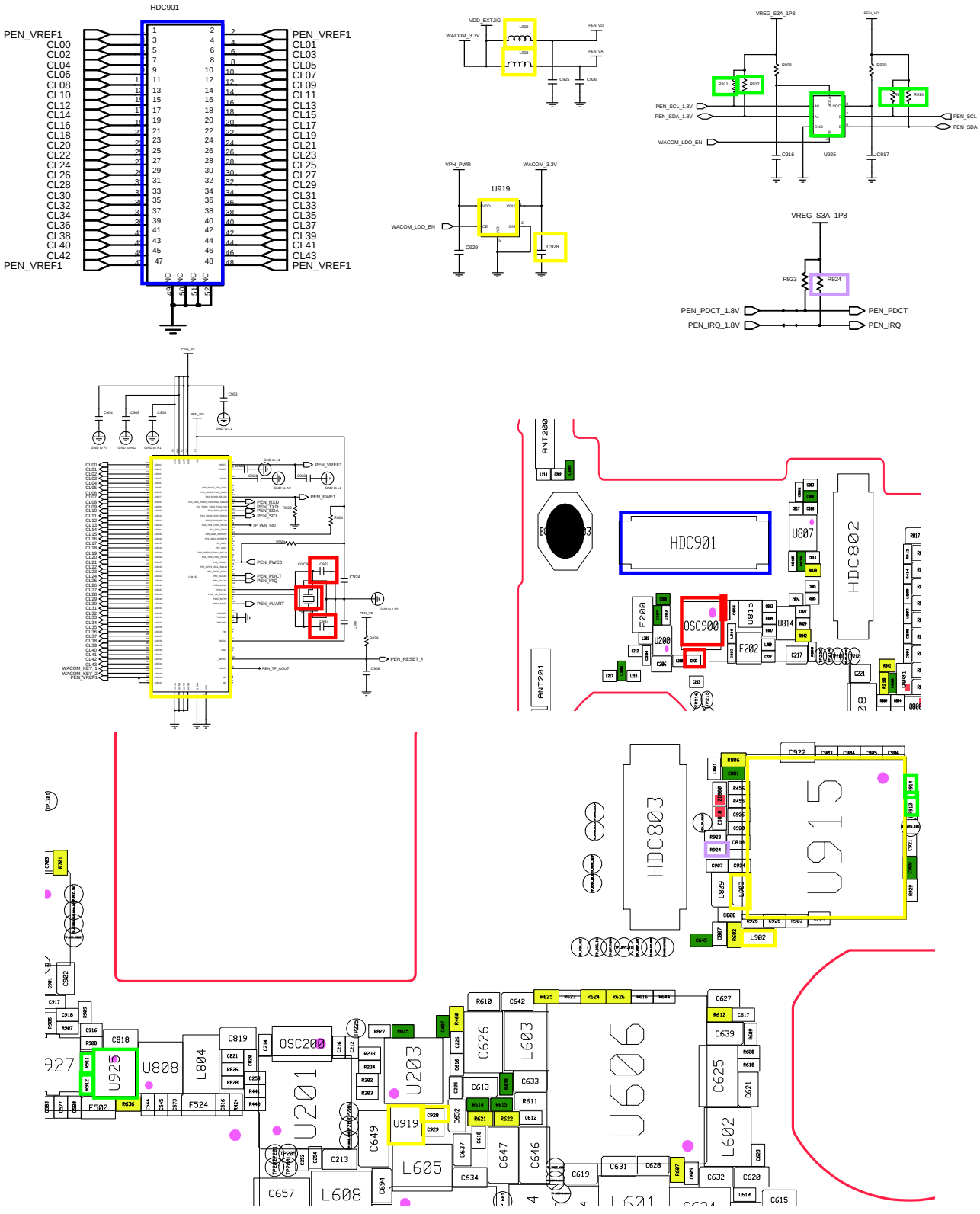

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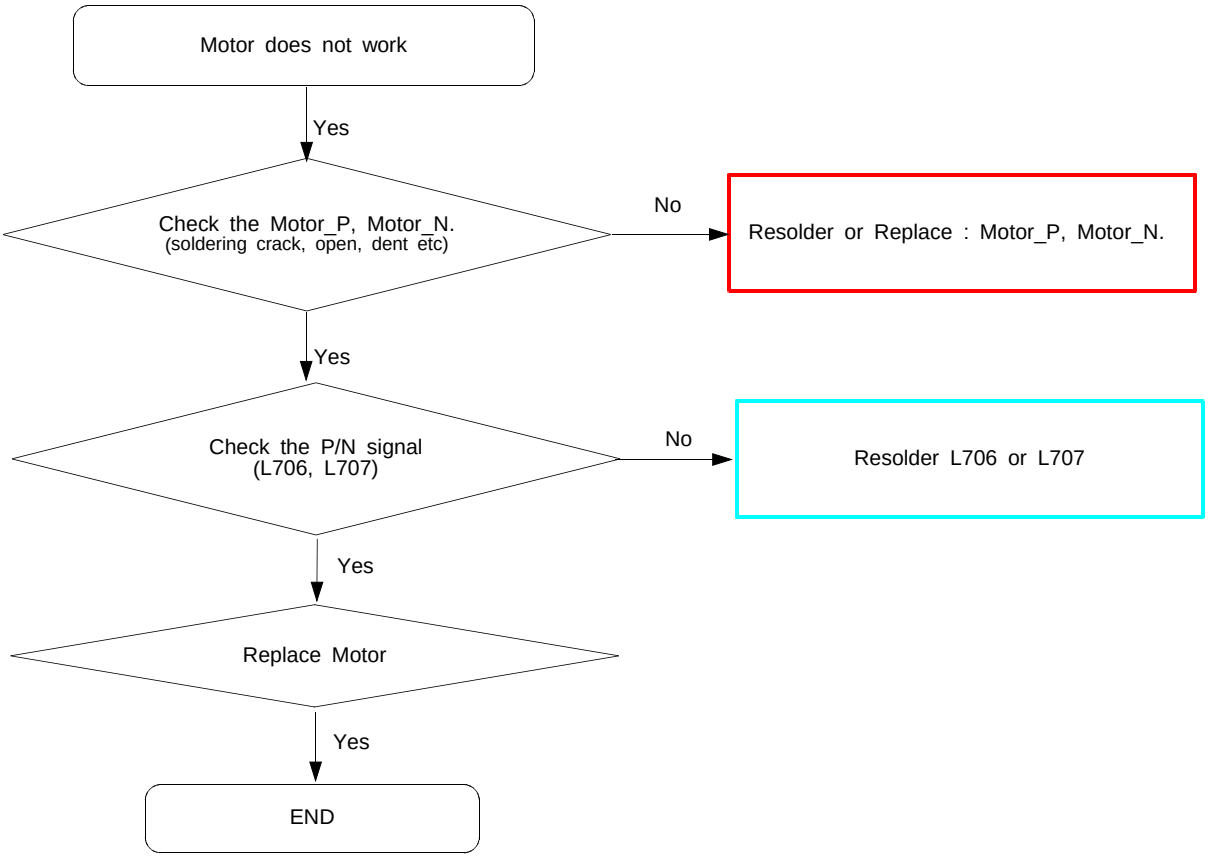
8-3-20. Motor



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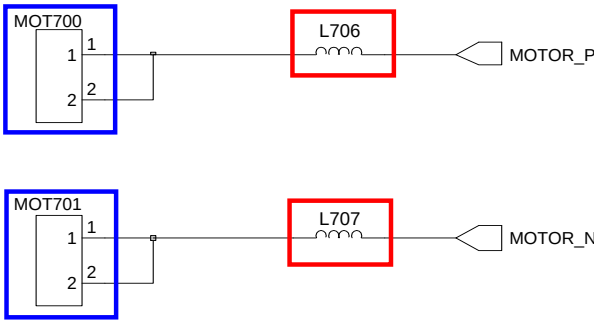

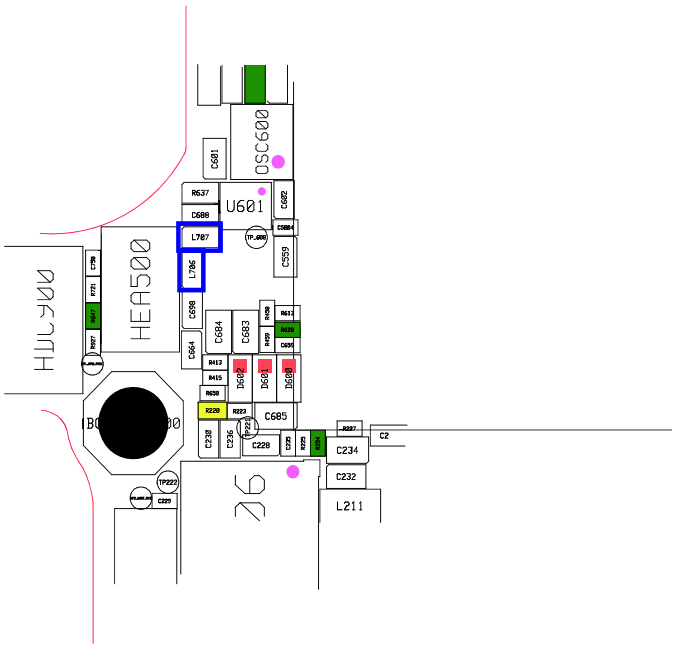

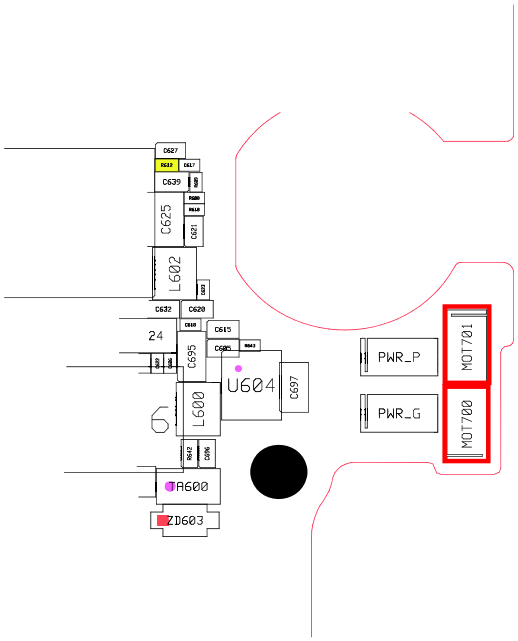

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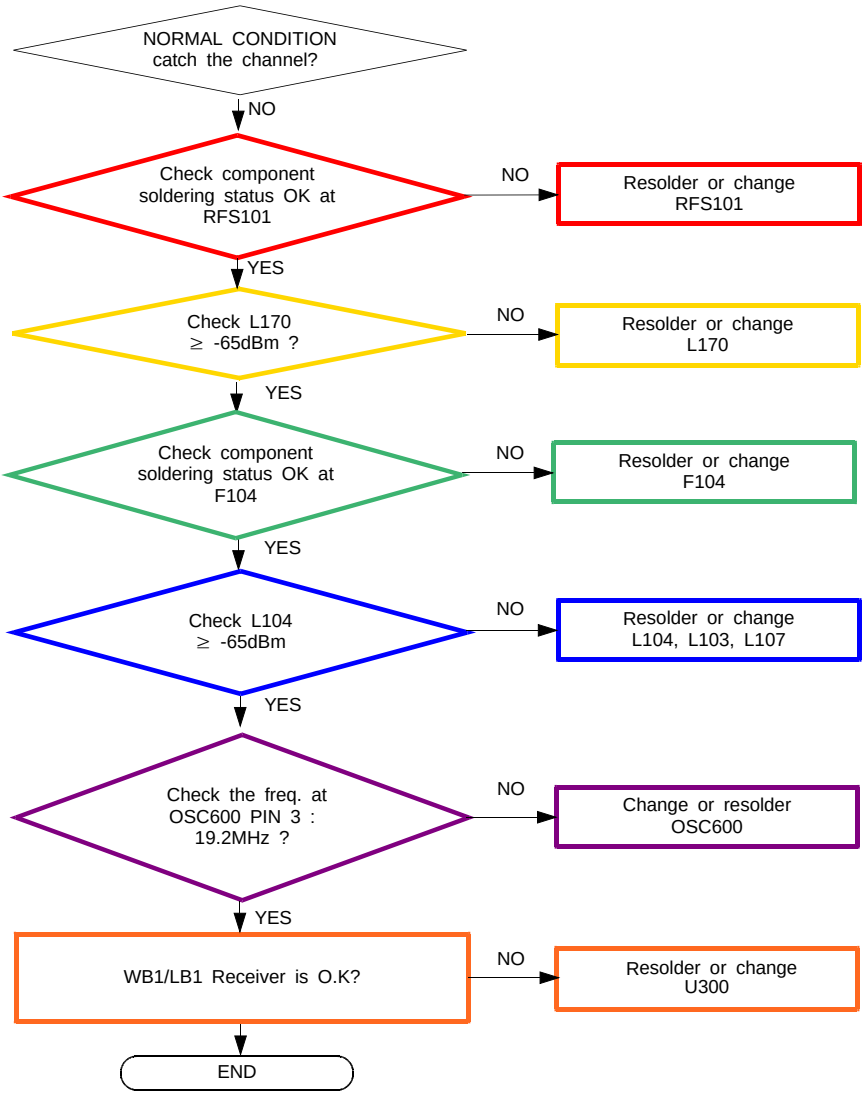
8-3-21. WCDMA B1 / LTE B1 RX



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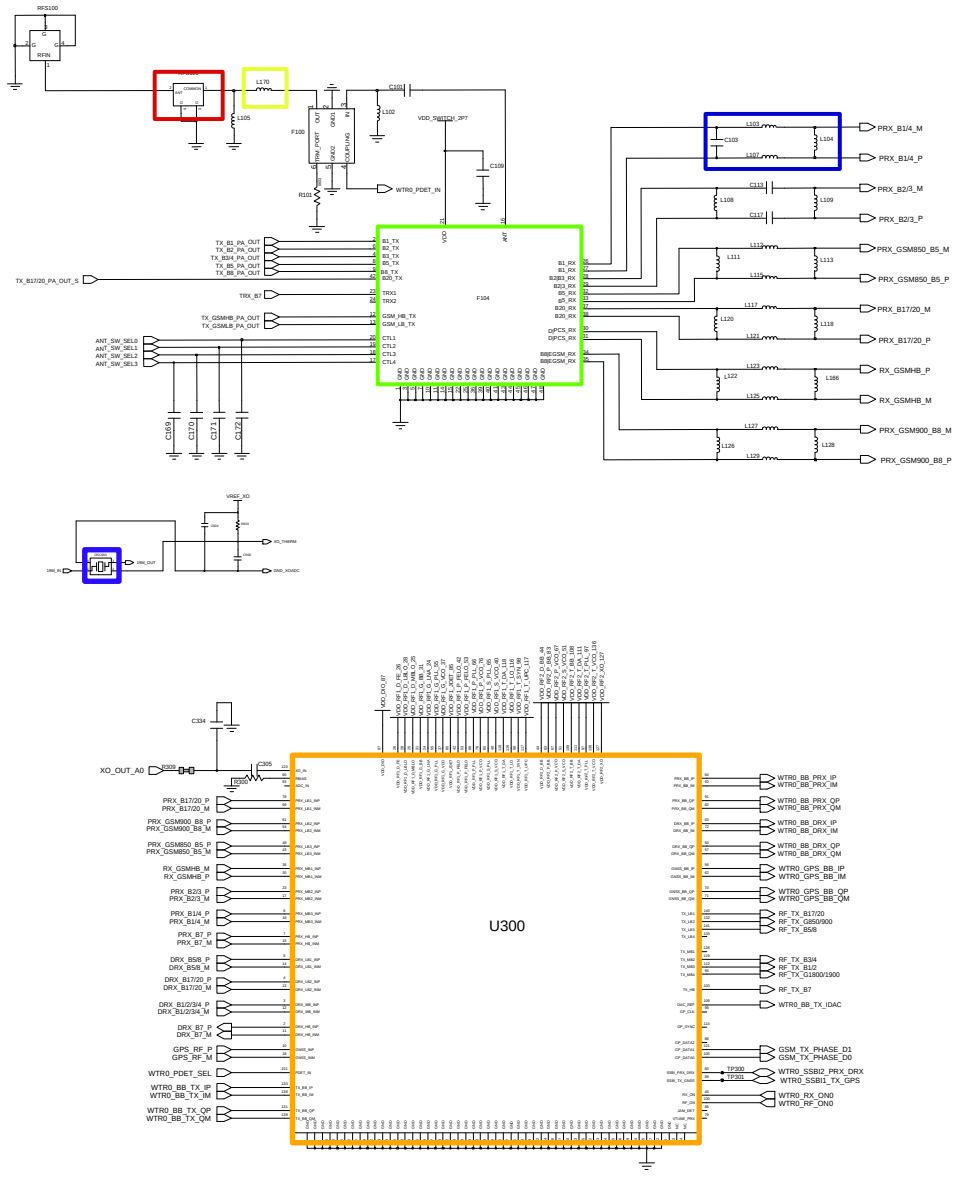

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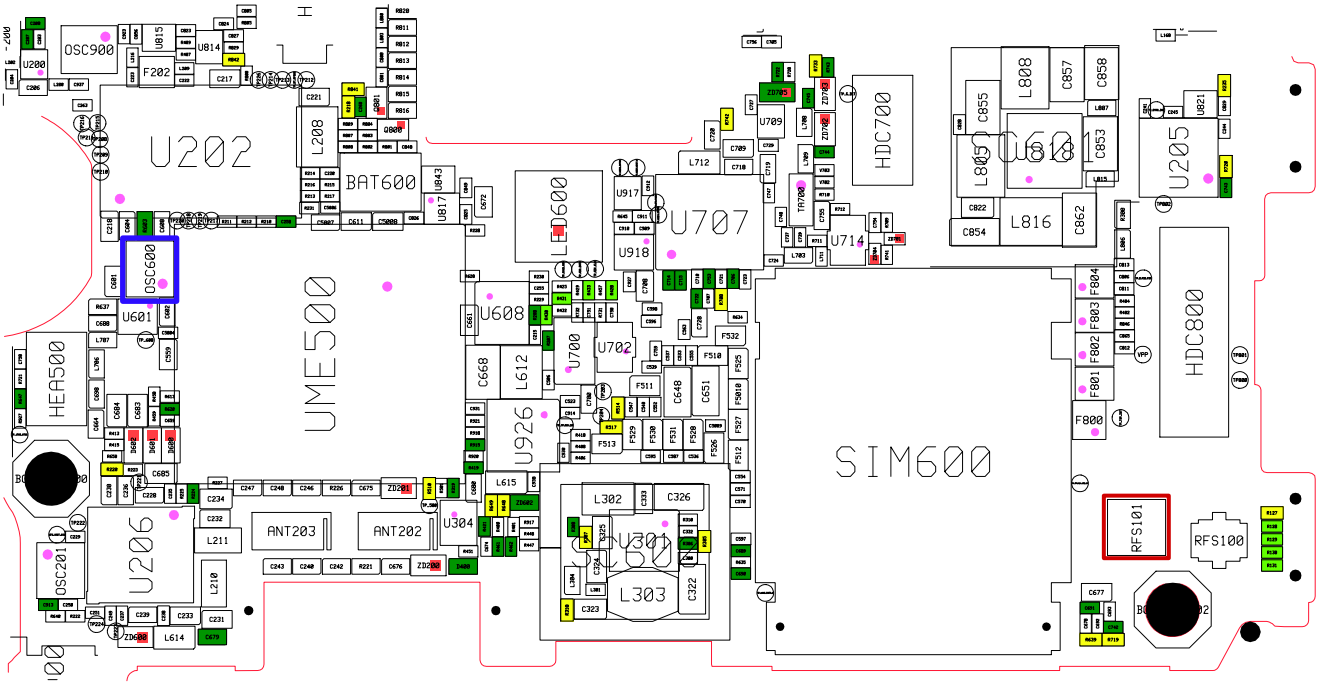

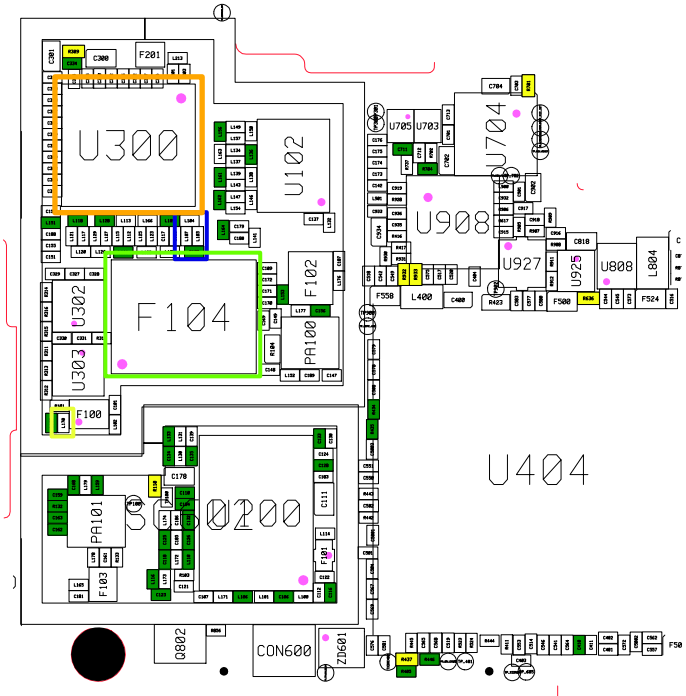

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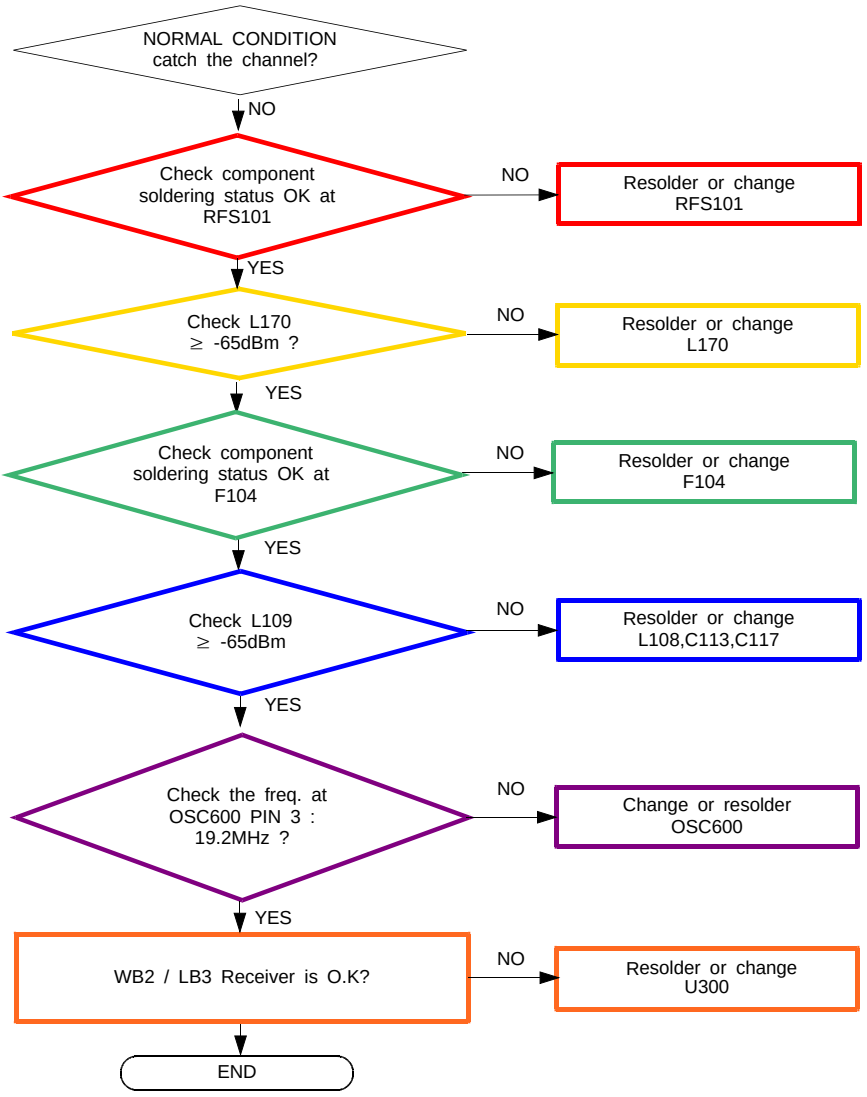
8-3-22. WCDMA B2 / LTE B3 RX

CONTINUOUS RX ON
RF INPUT : 9800 CH(WB2)
1575 CH(LB3)
AMP : -50dBm



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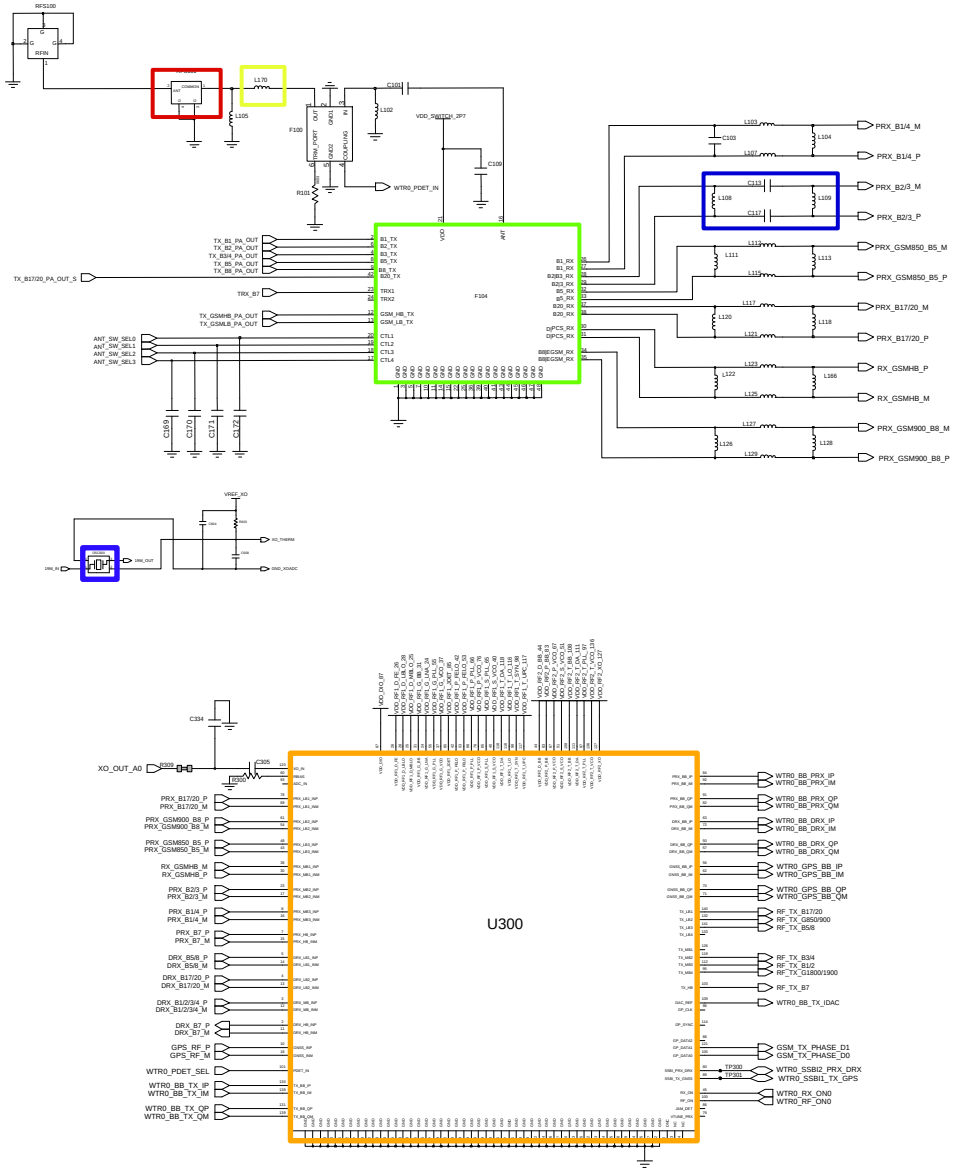

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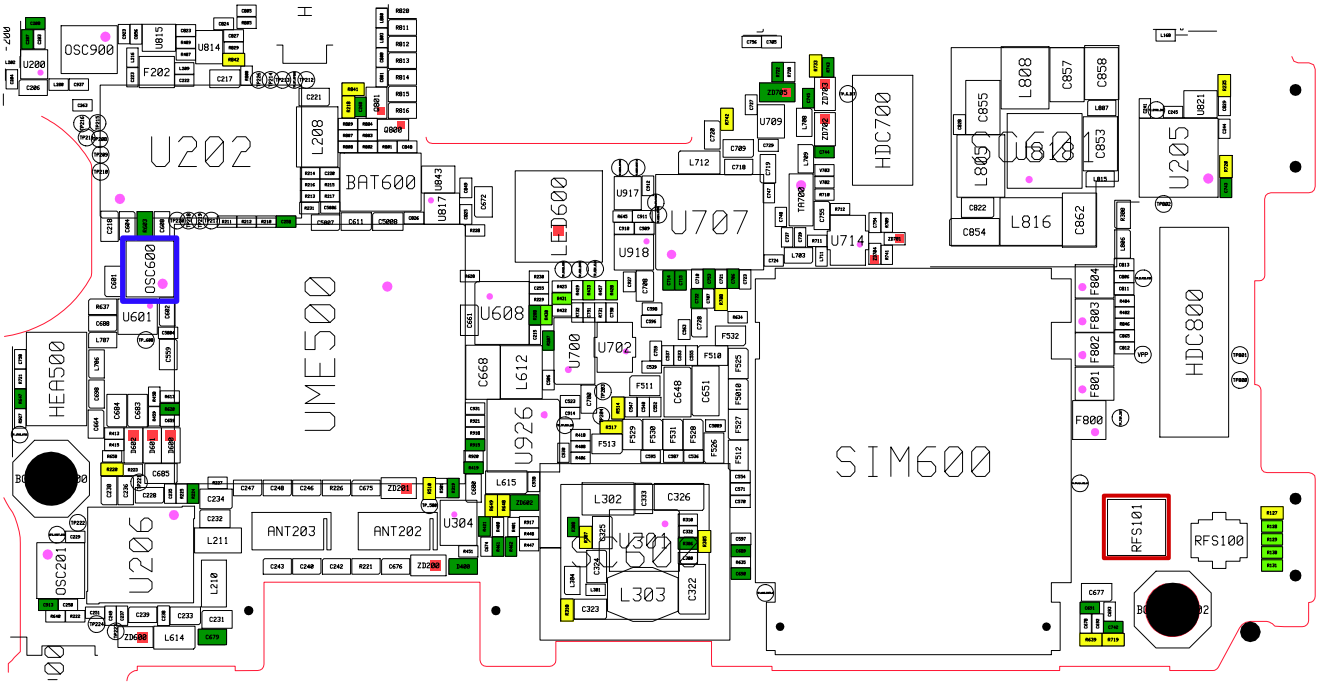

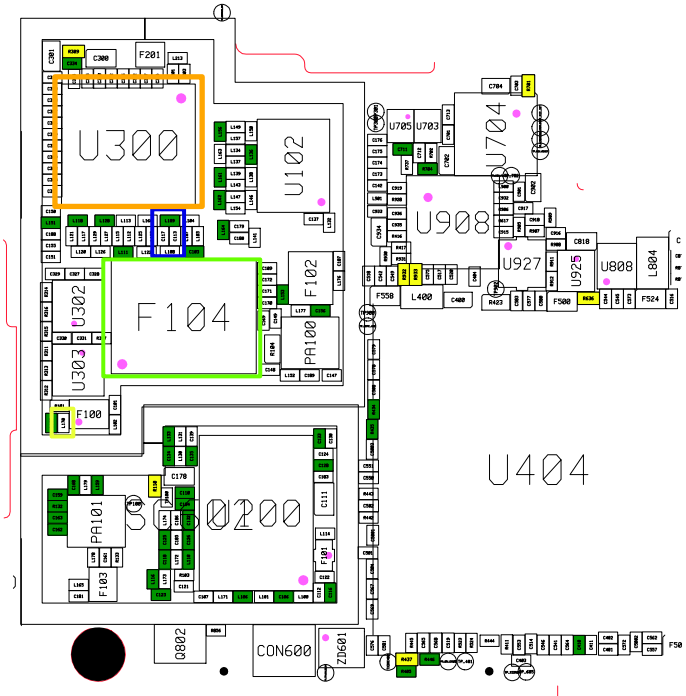

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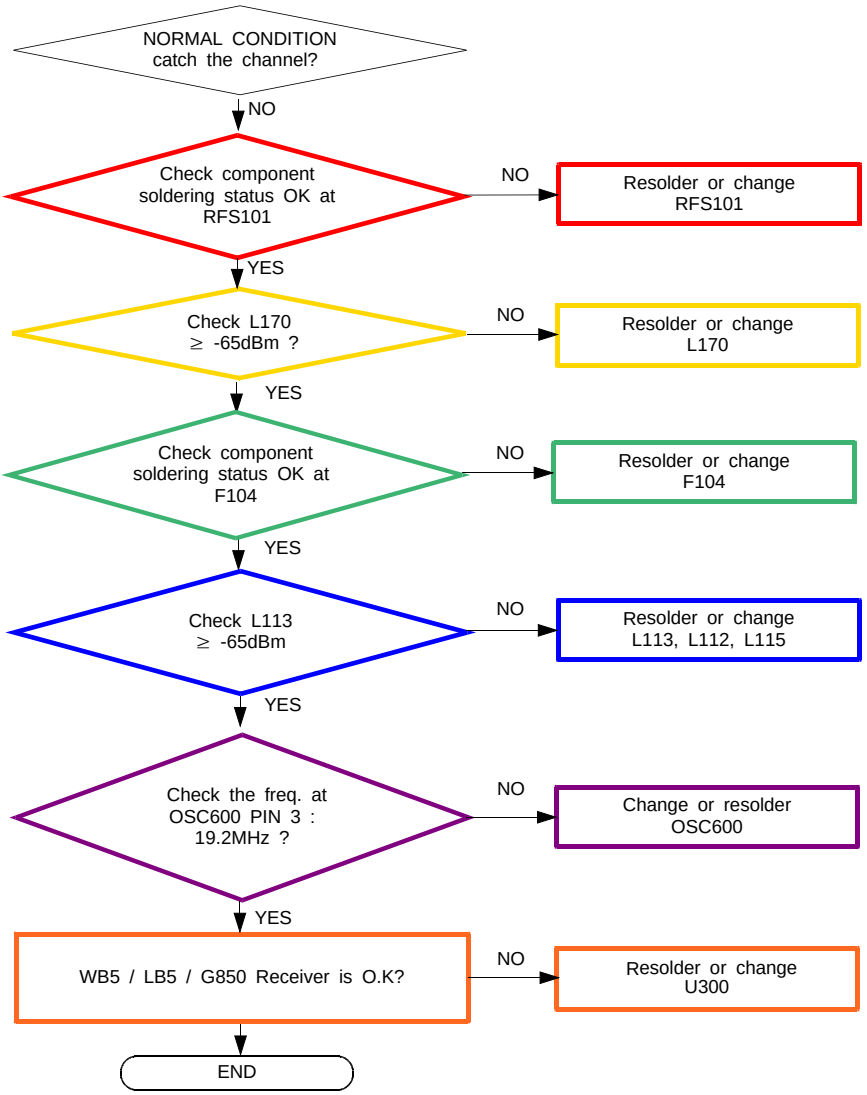
8-3-23. WCDMA B5 / LTE B5 / GSM850 RX

CONTINUOUS RX ON
RF INPUT : 4407 CH(WB5)
2525 CH(LB5)
190 CH(G850)
AMP : -50dBm



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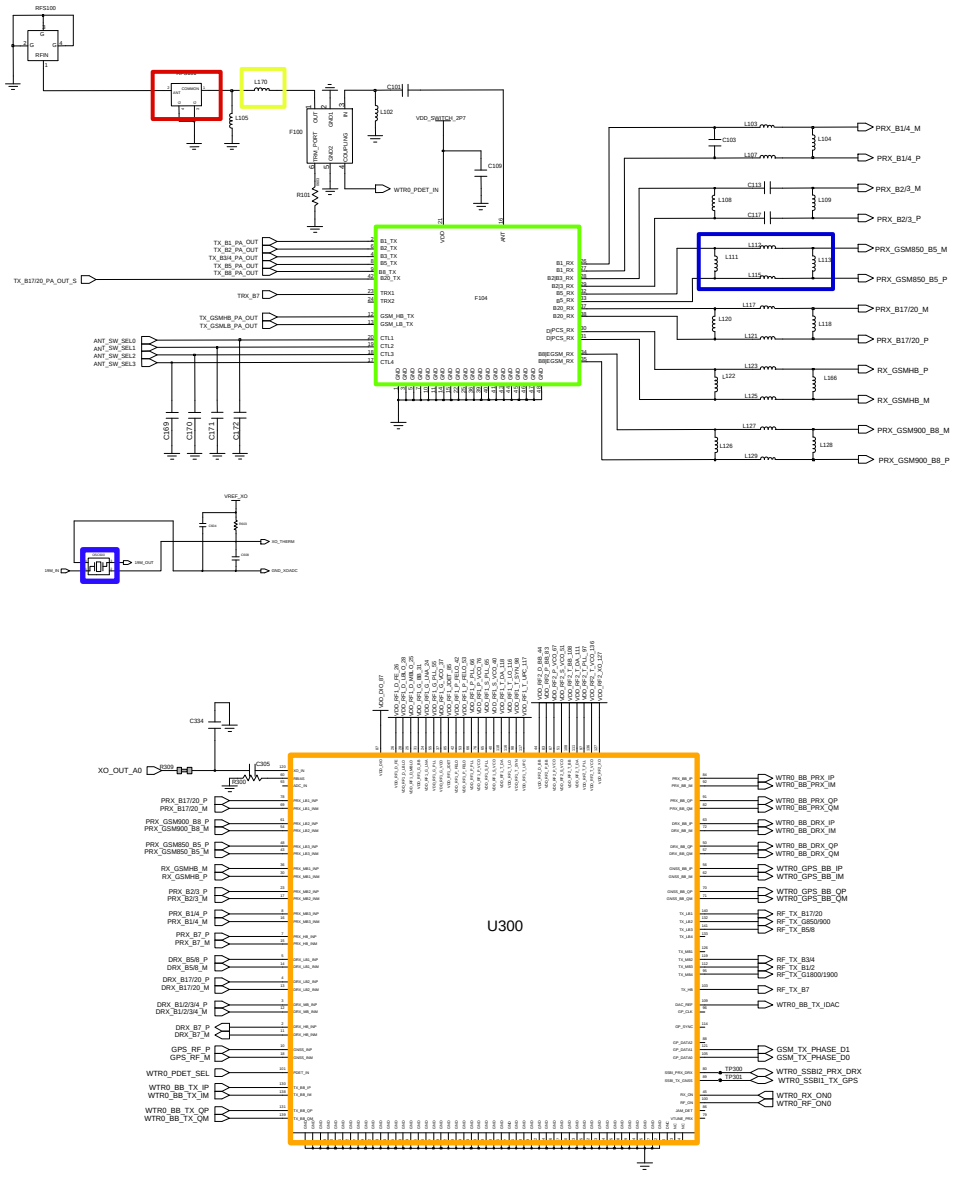

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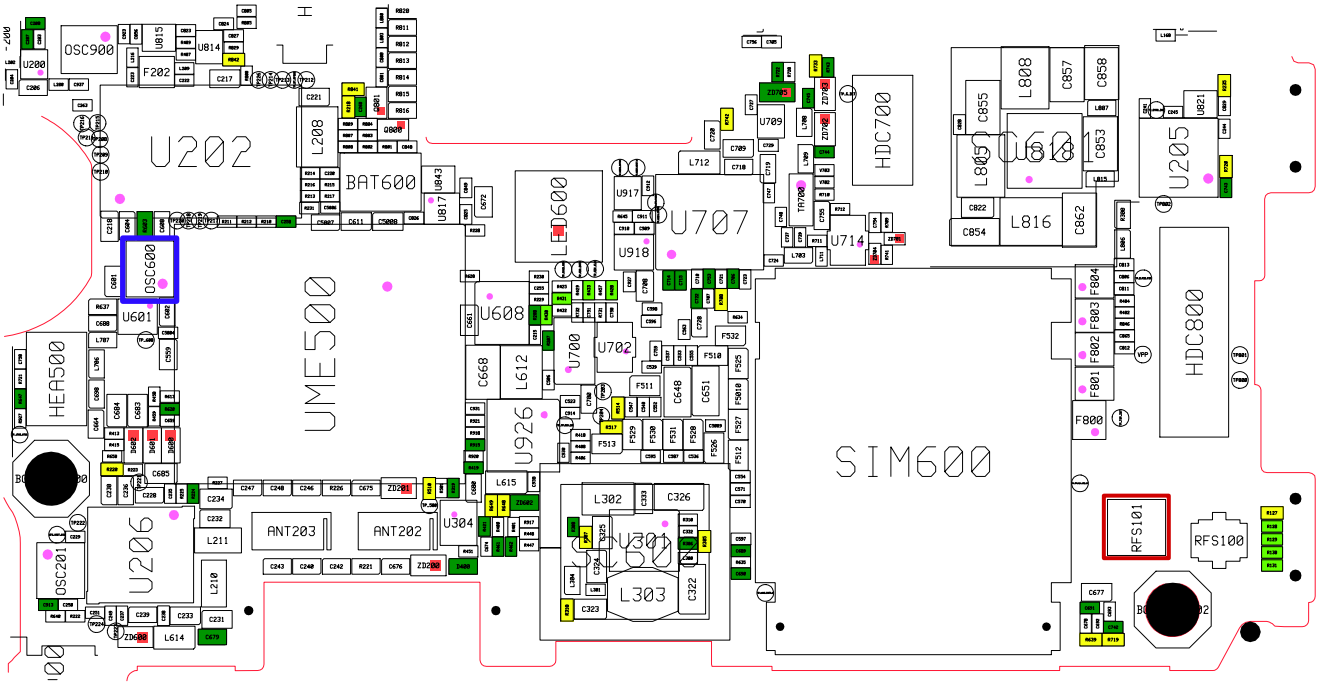

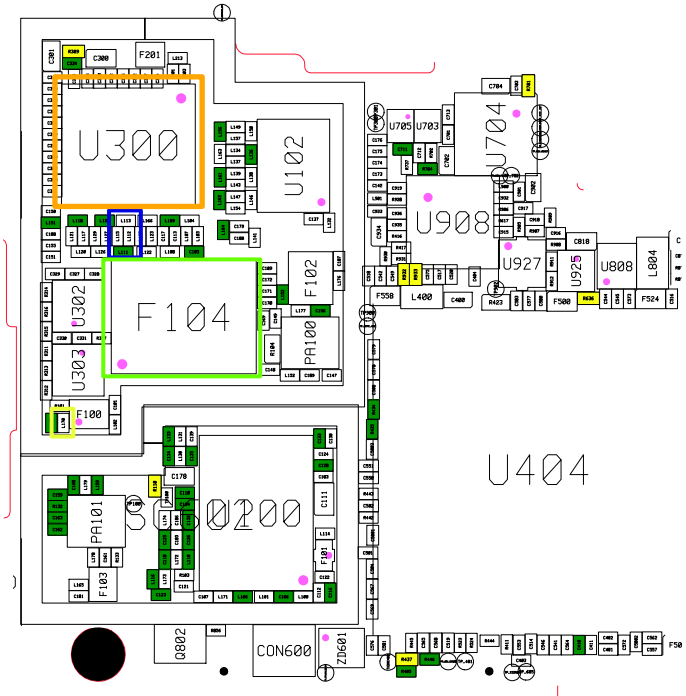

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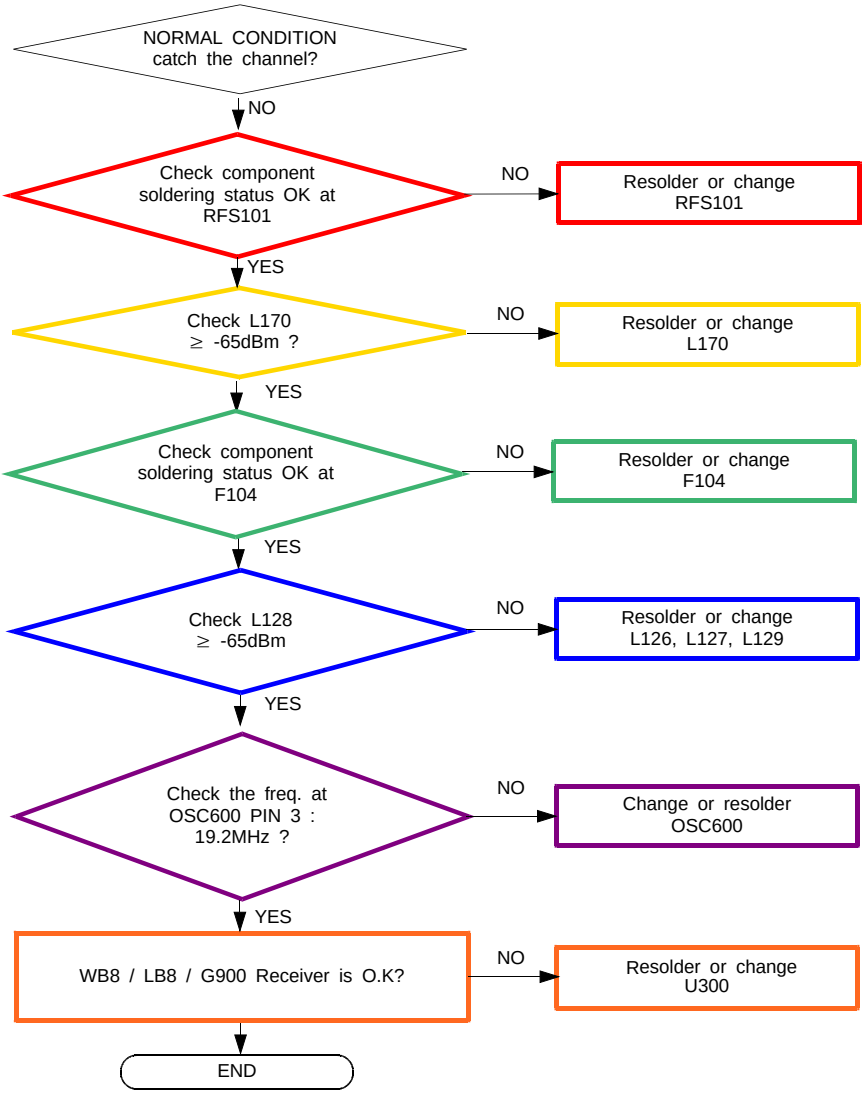
8-3-24. WCDMA B8 / LTE B8 / GSM900 RX

CONTINUOUS RX ON
RF INPUT : 3013 CH(WB8)
3625 CH(LB8)
37 CH(G900)
AMP : -50dBm



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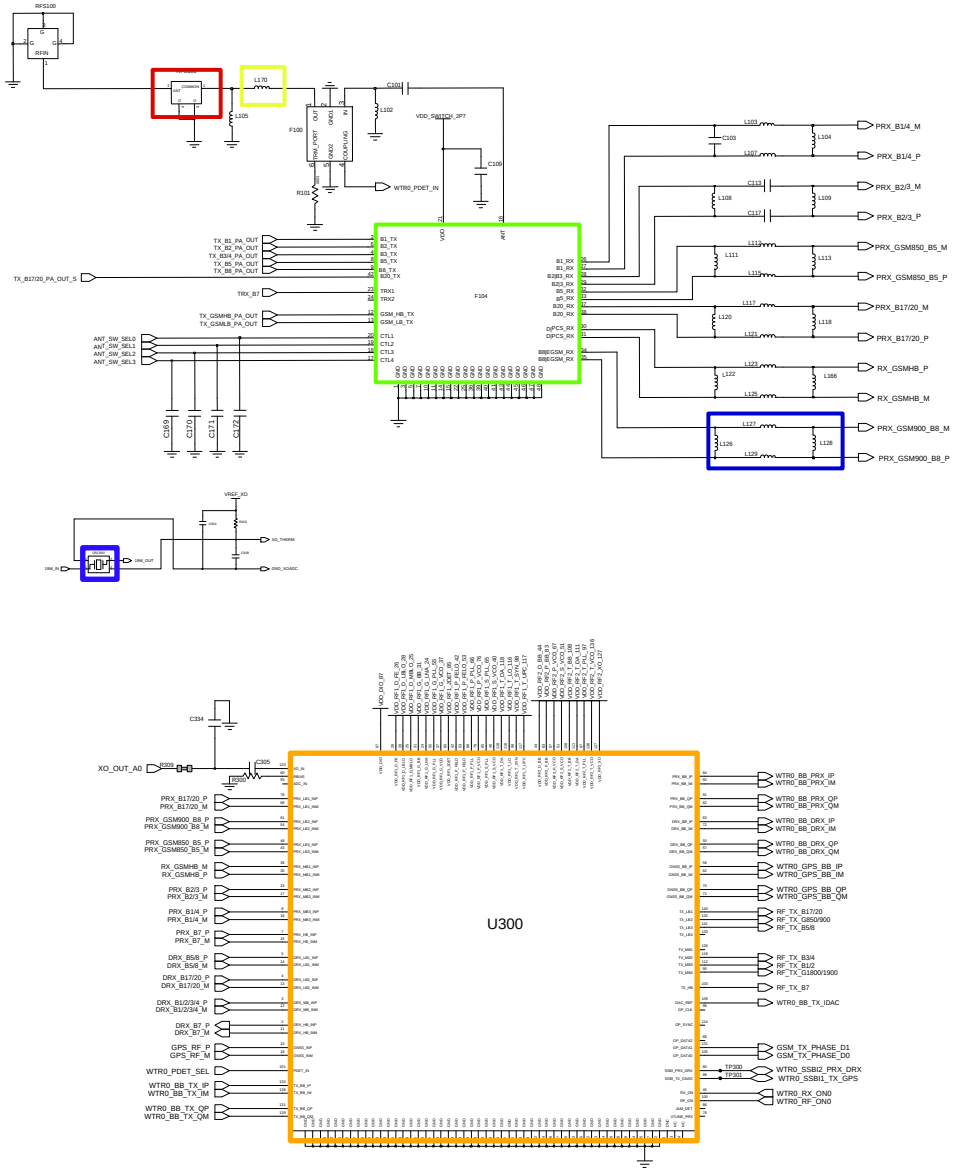

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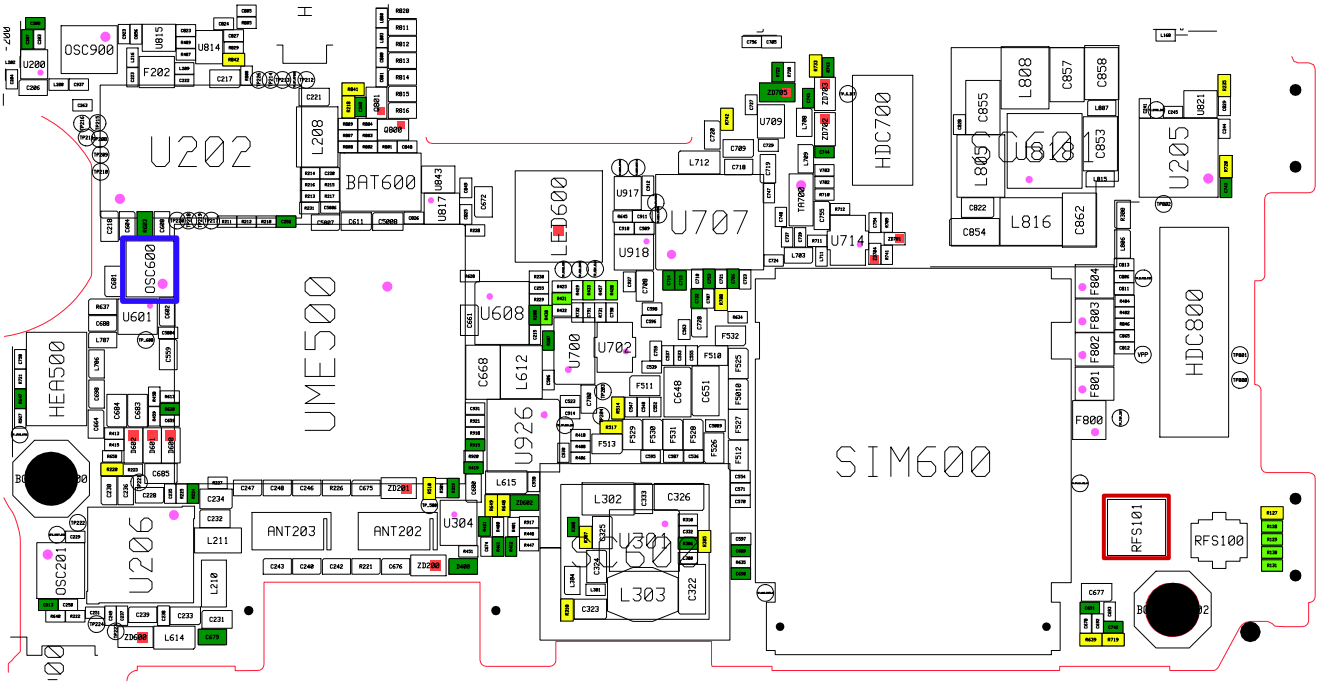

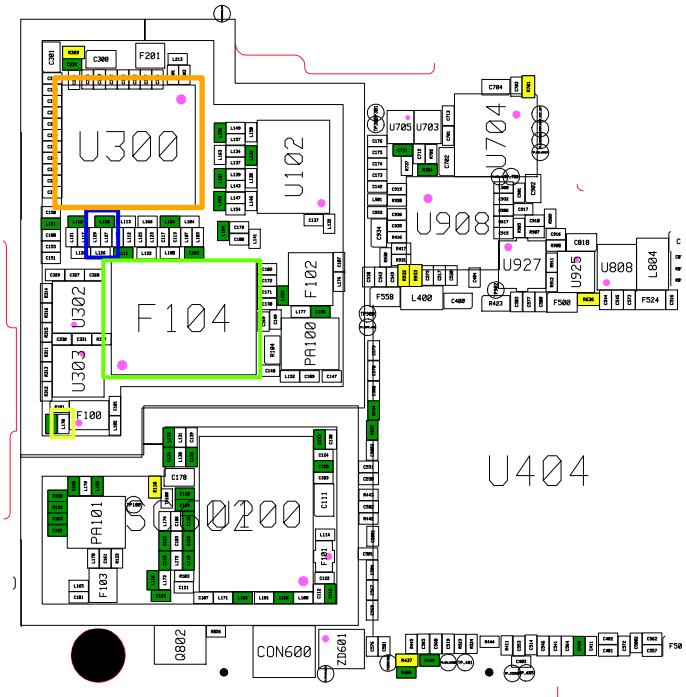

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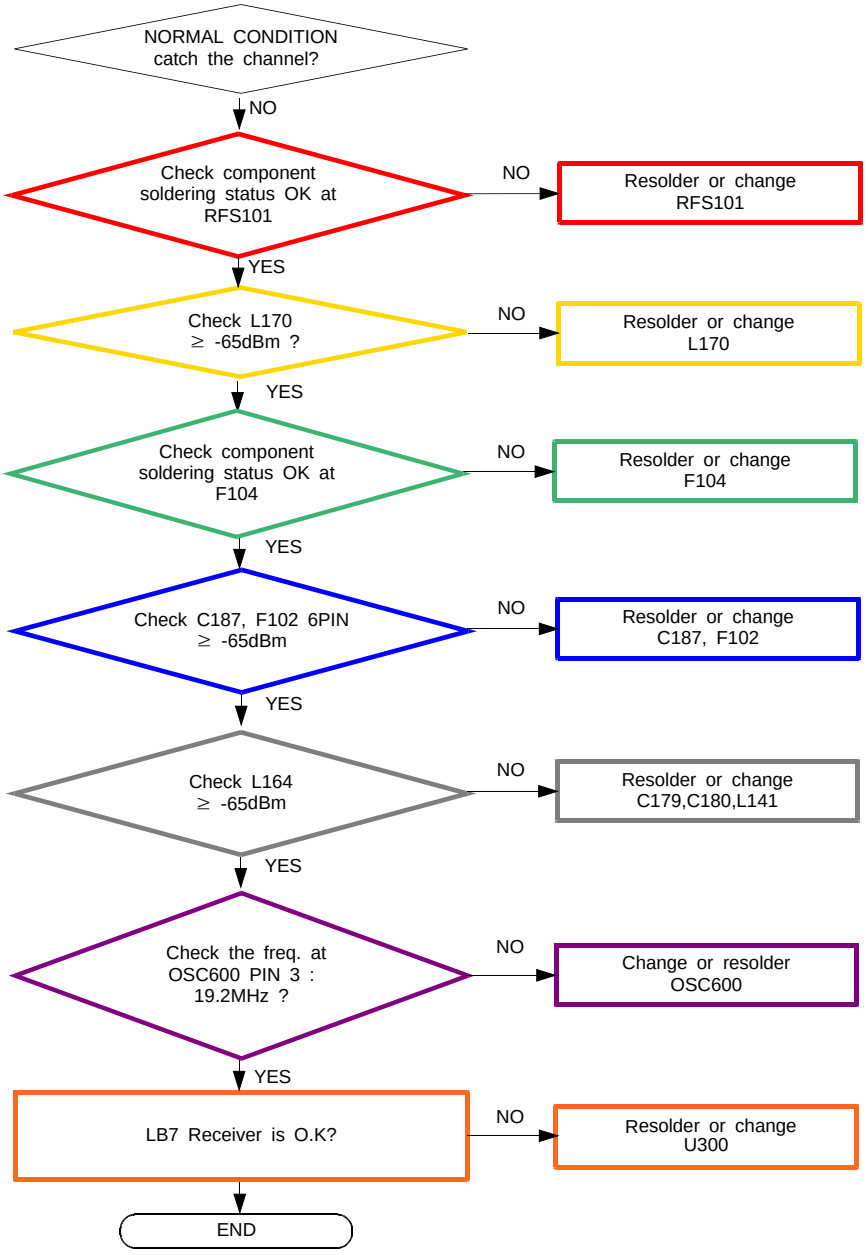
8-3-25. LTE B7 RX

CONTINUOUS RX ON
RF INPUT : 3100 CH
AMP : -50dBm



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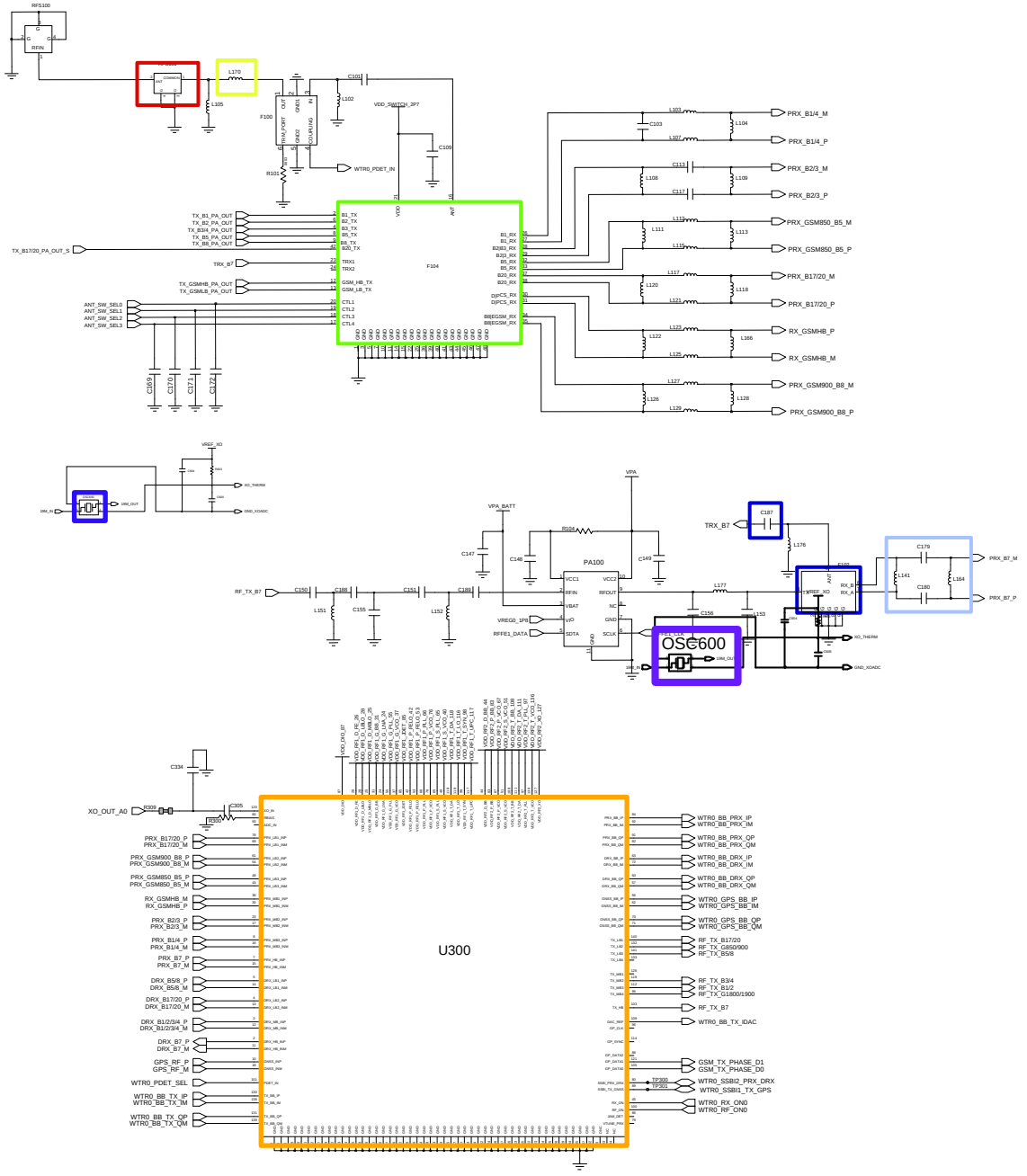

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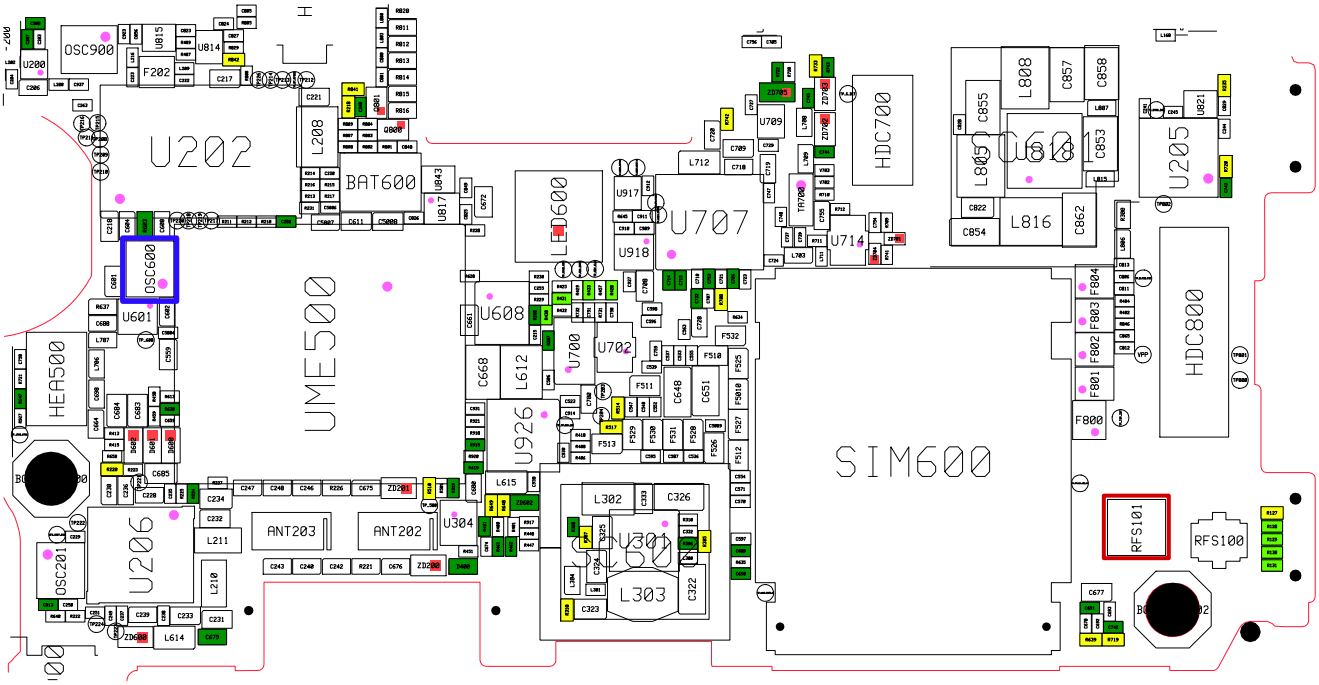

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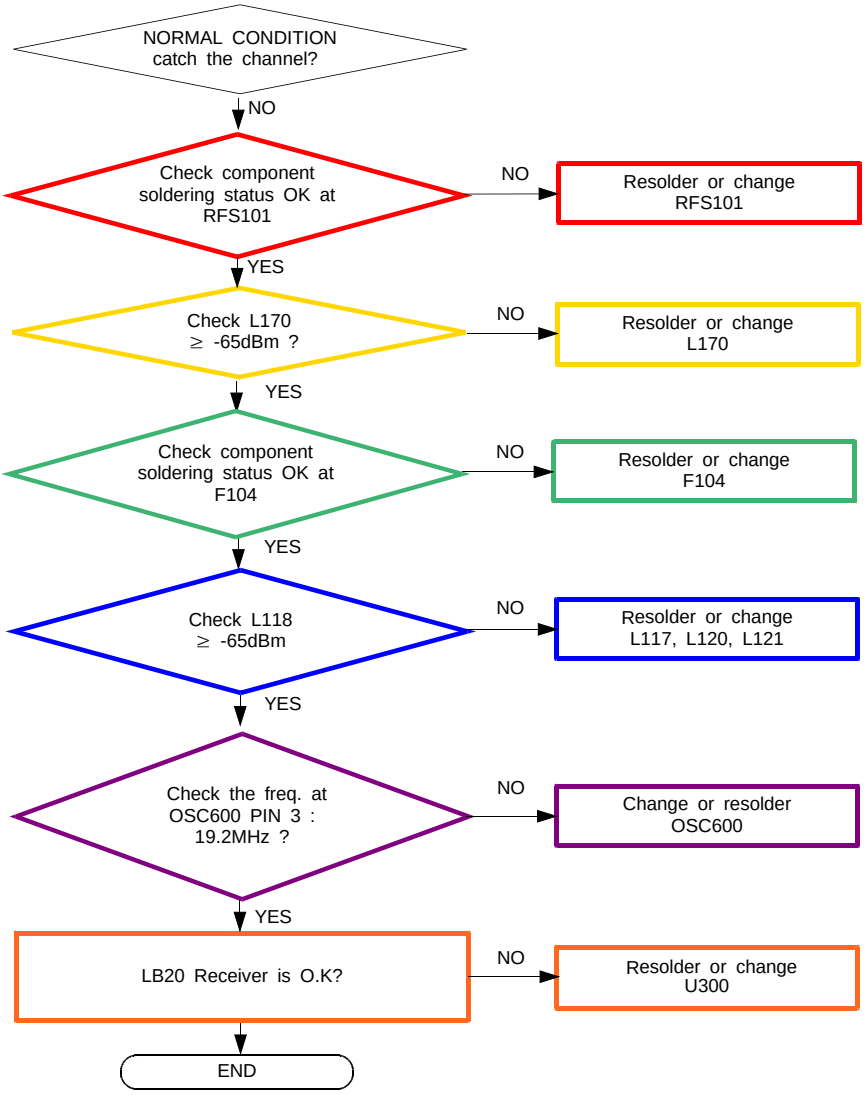
8-3-26. LTE B20 RX

CONTINUOUS RX ON
RF INPUT : 6300 CH
AMP : -50dBm



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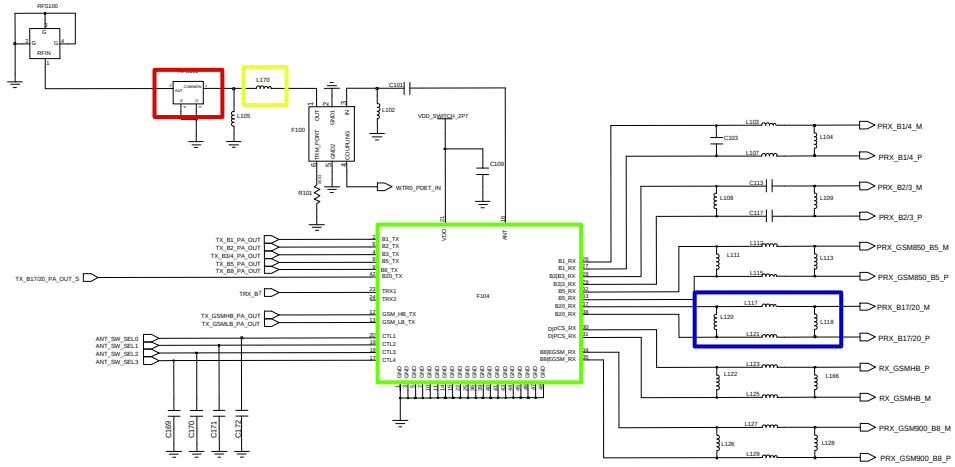

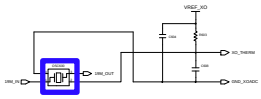

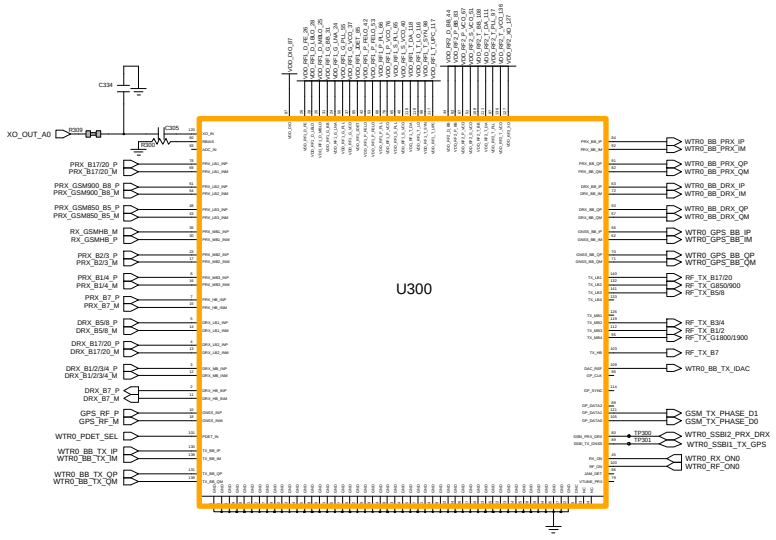

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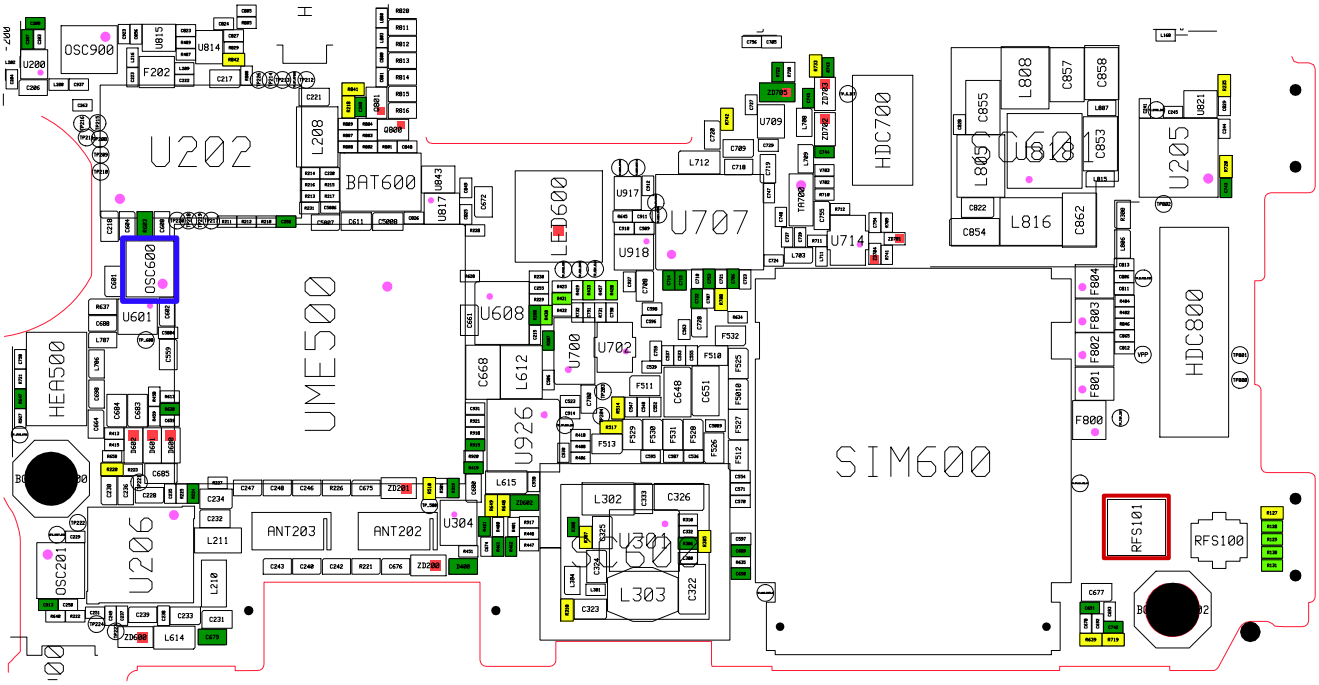

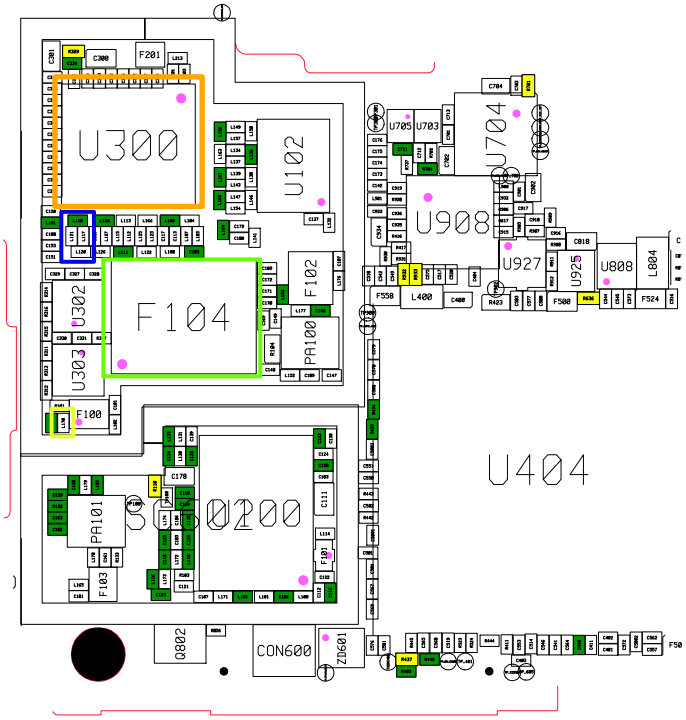

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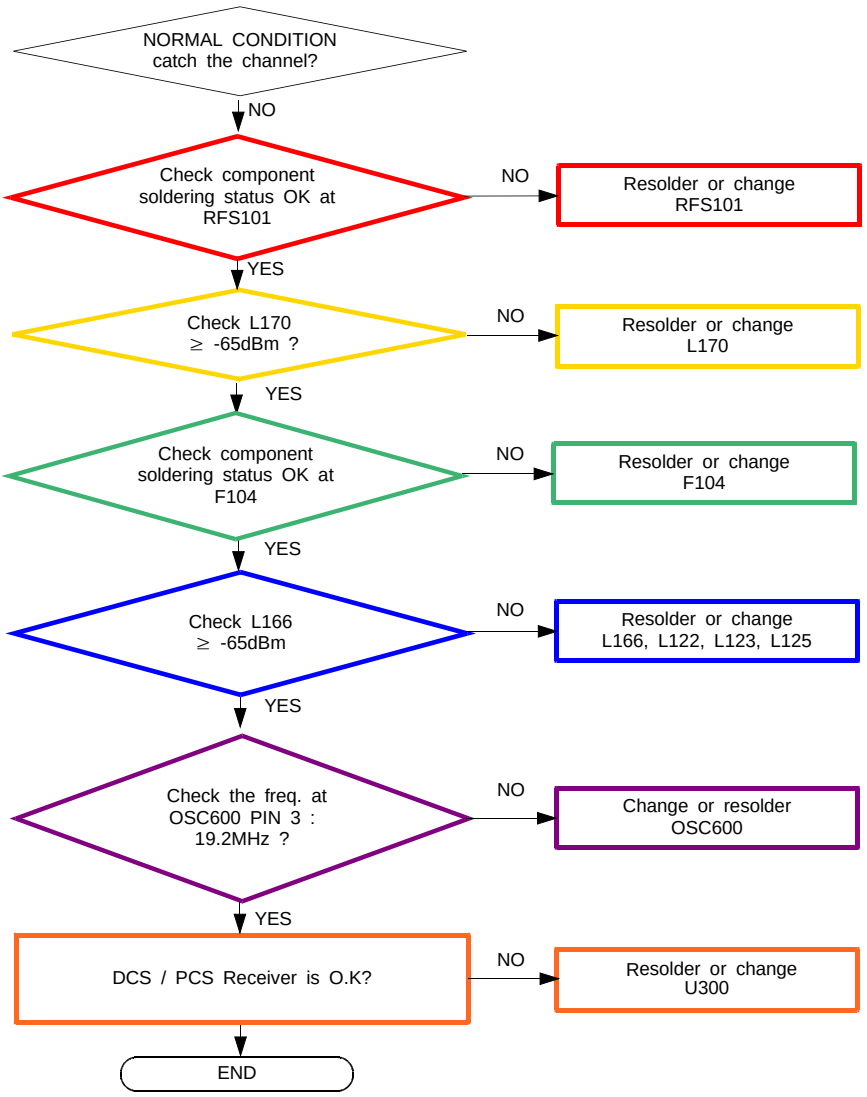
8-3-27. DCS / PCS RX

CONTINUOUS RX ON
RF INPUT : 6300 CH
AMP : -50dBm



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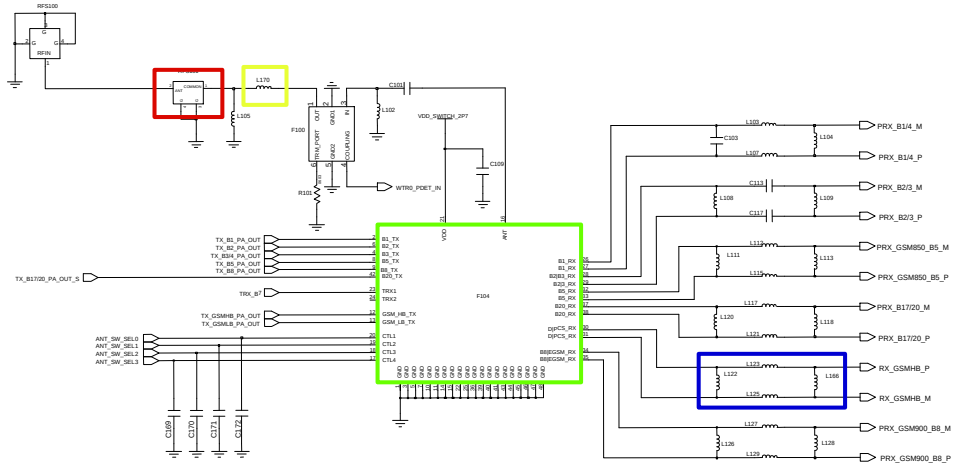

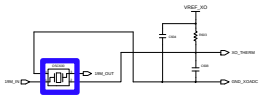

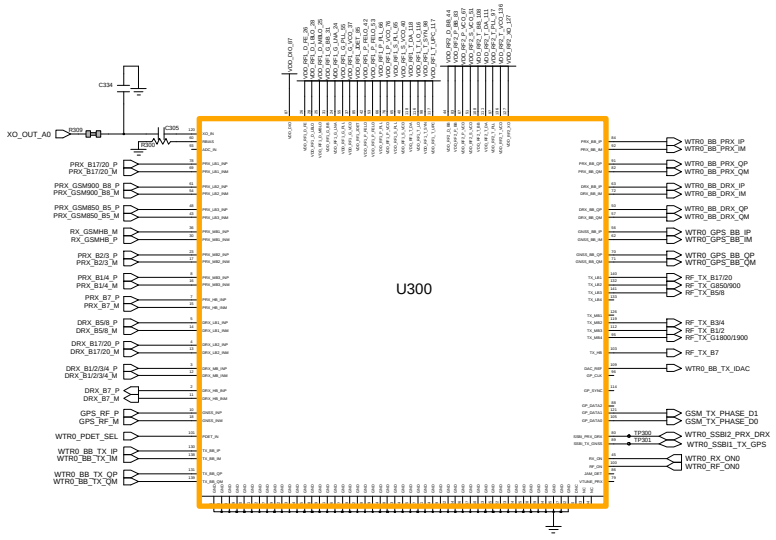

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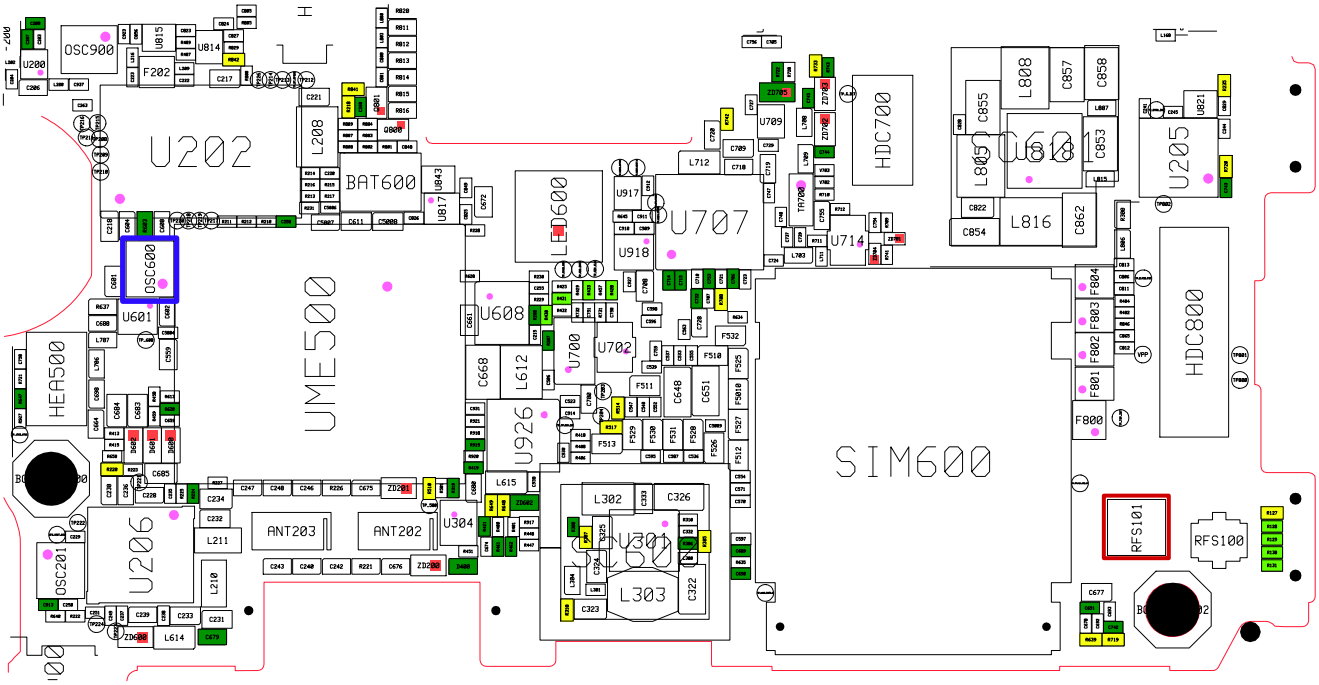

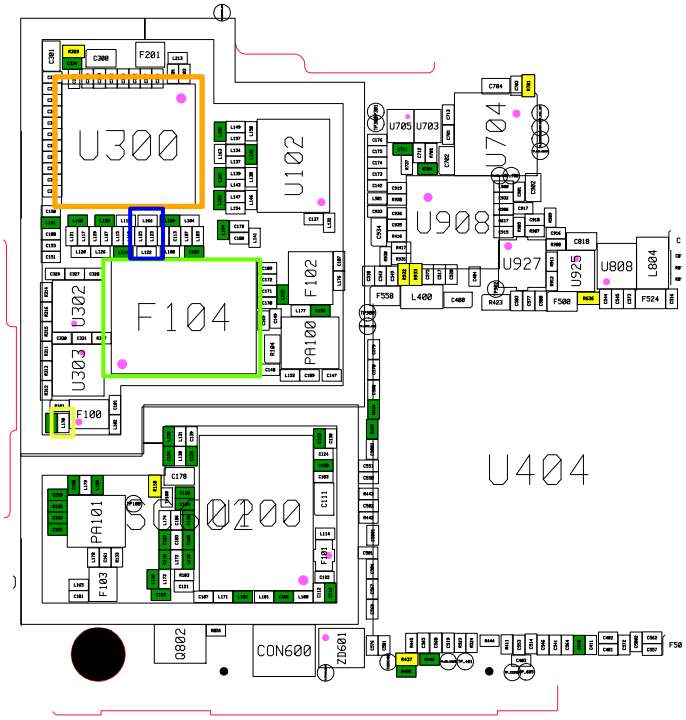

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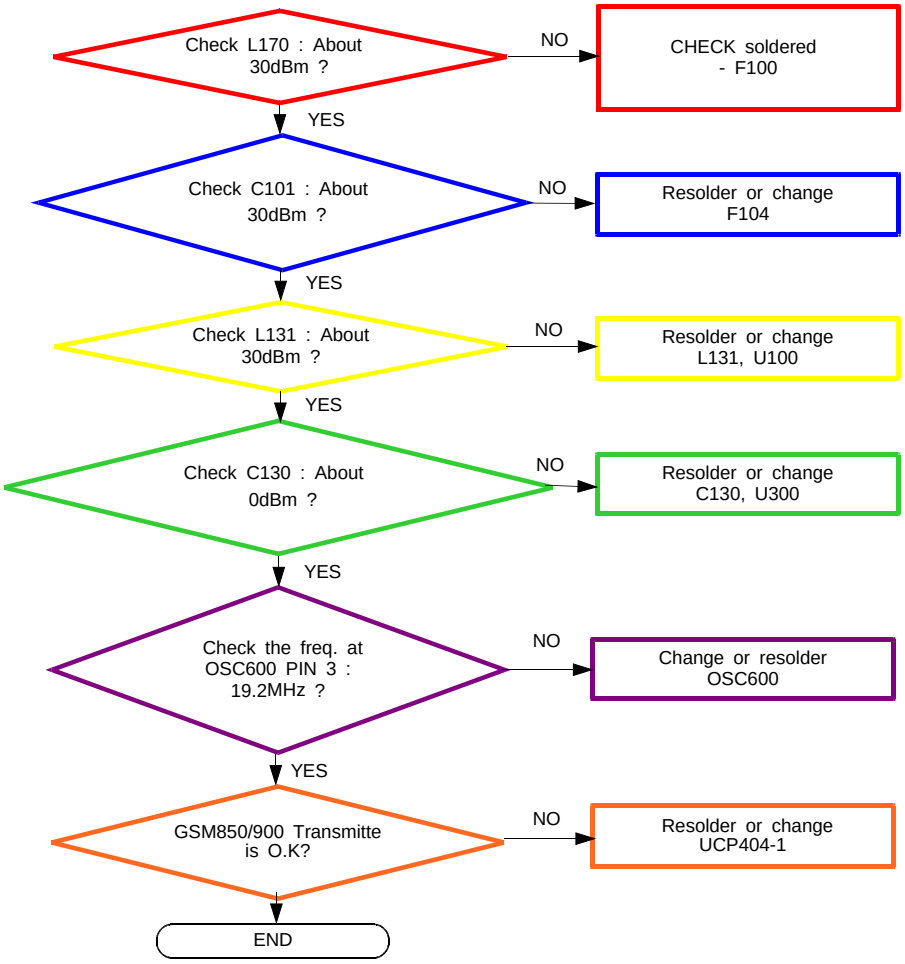
8-3-28. GSM850/GSM900 TX

CONTINUOUS TX ON CONDITION
TX POWER IDX1 APPLIED
GSM850 CH : 190
GSM900 CH : 62
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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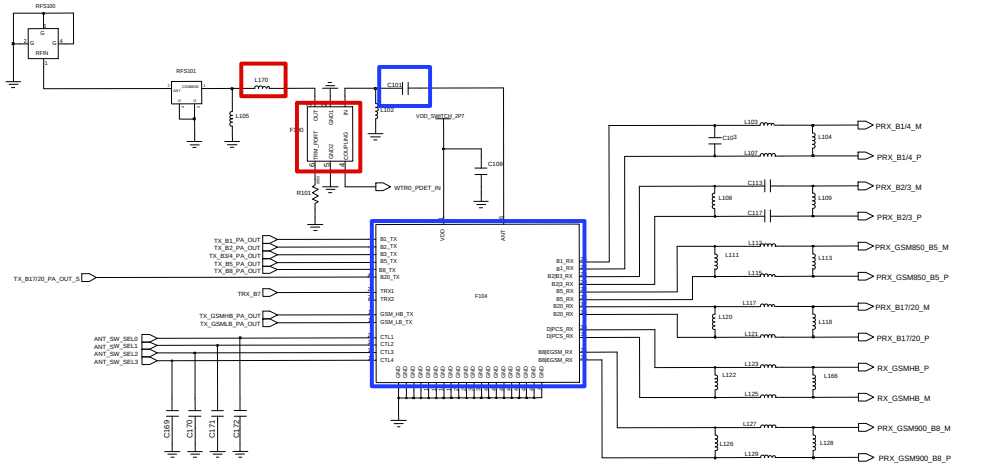

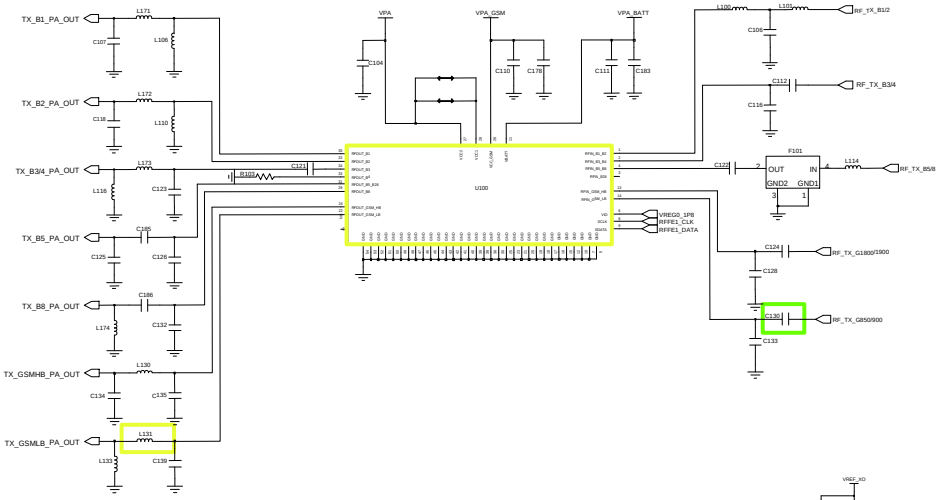

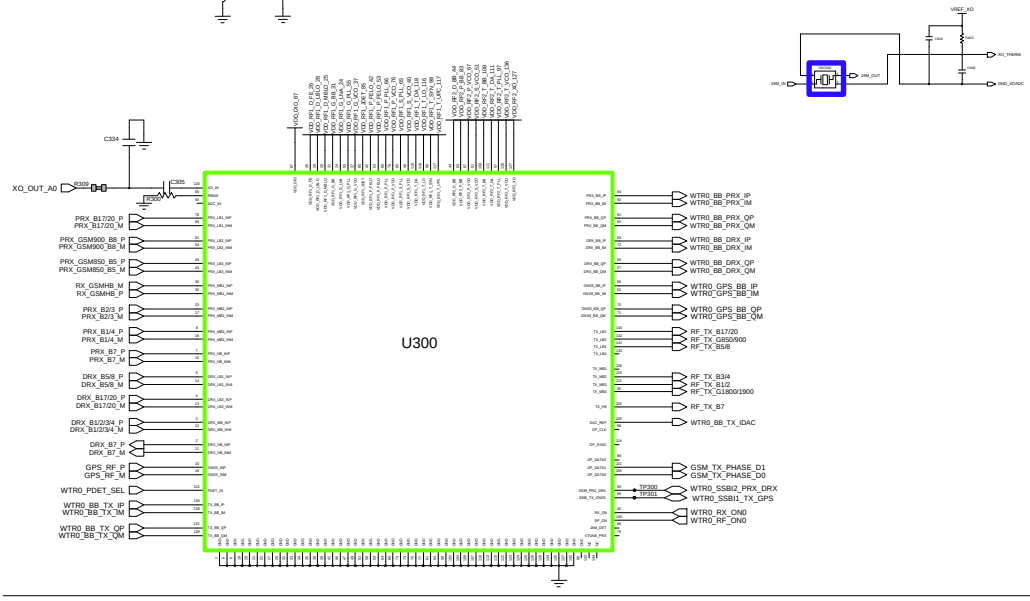

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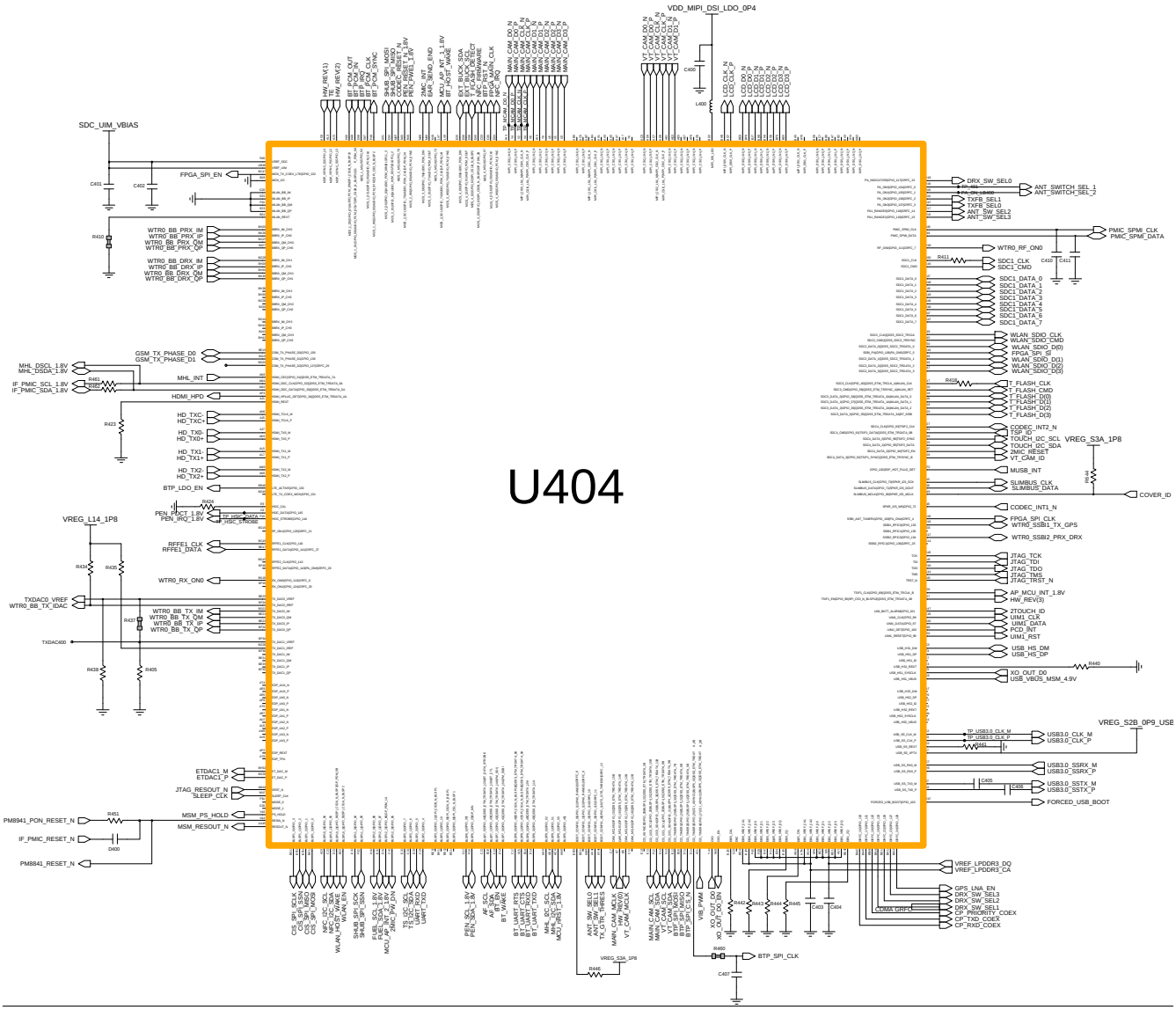

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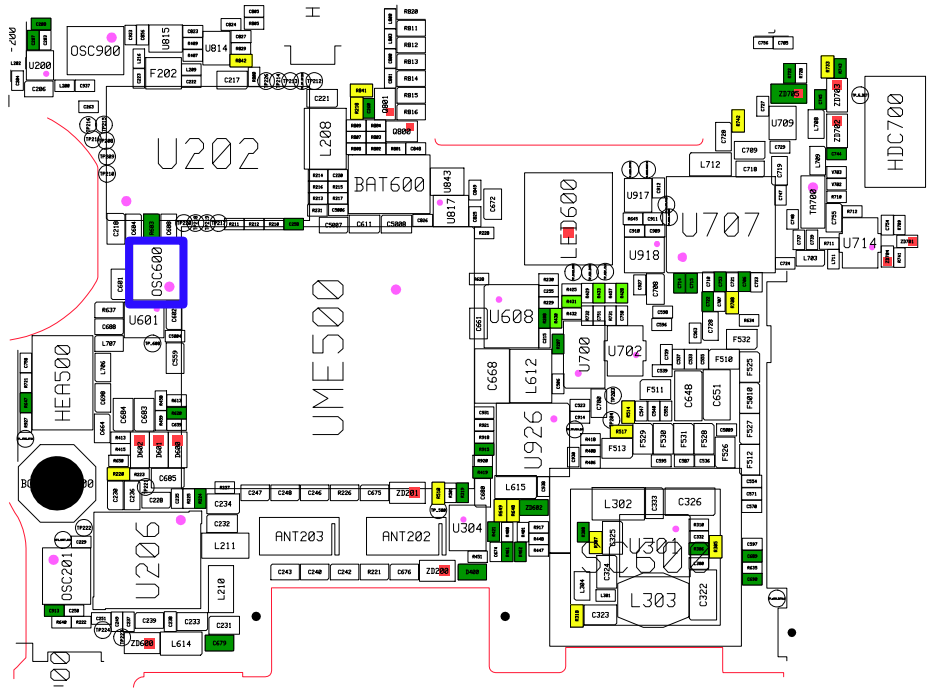

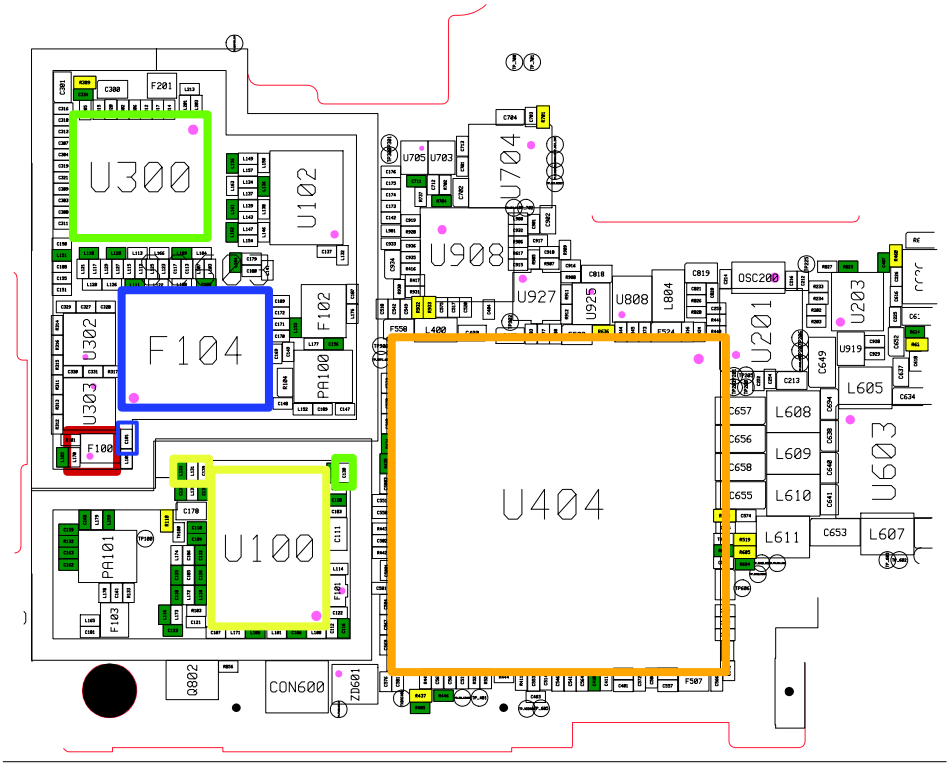

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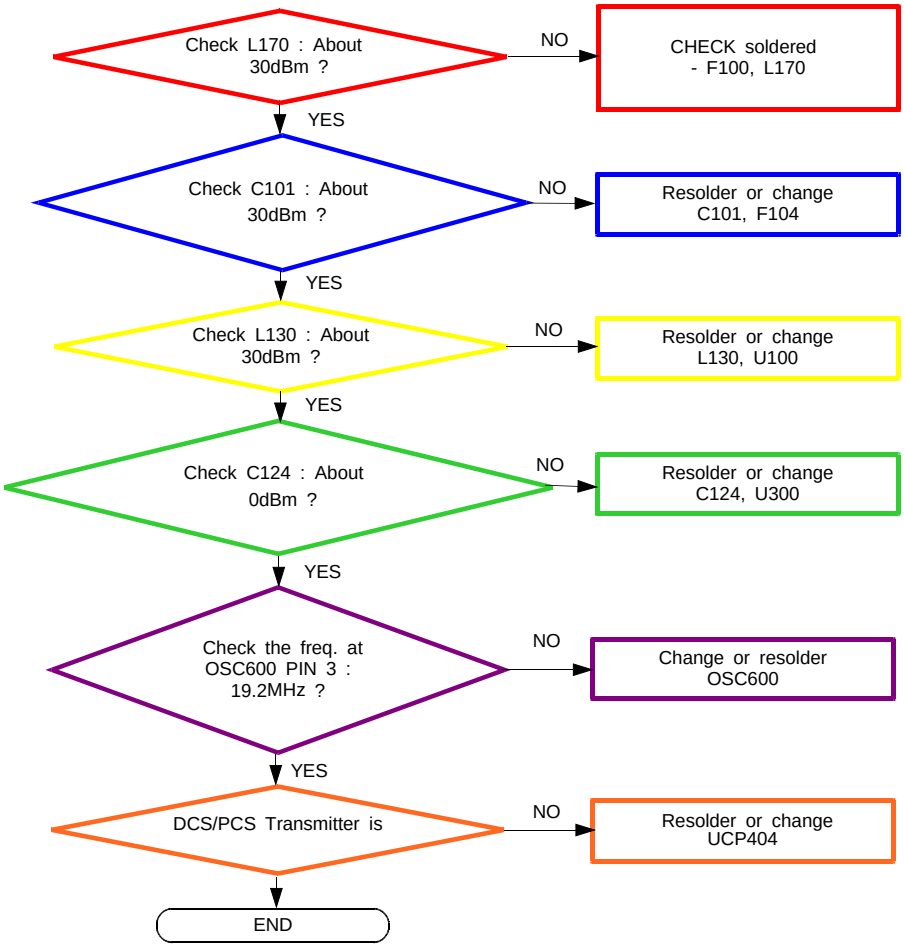
8-3-29. DCS/PCS TX

CONTINUOUS TX ON CONDITION
TX POWER IDX1 APPLIED
DCS CH : 698
PCS CH : 661
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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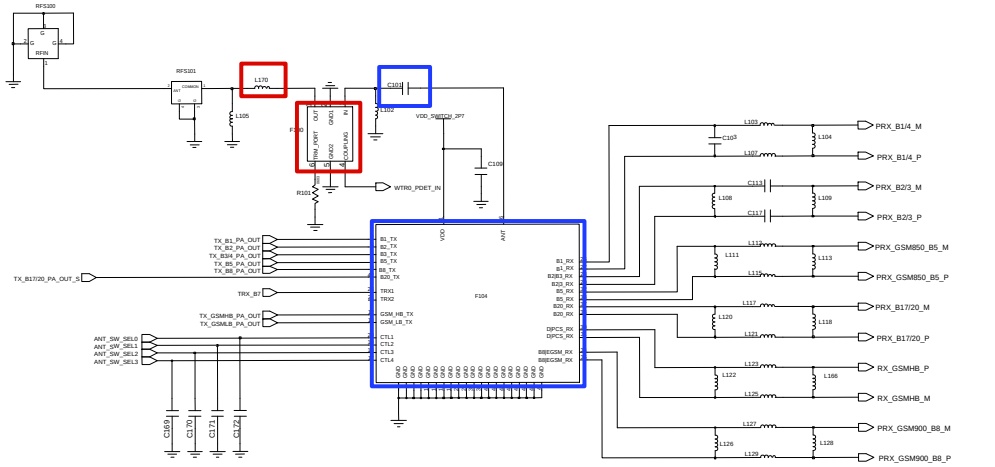

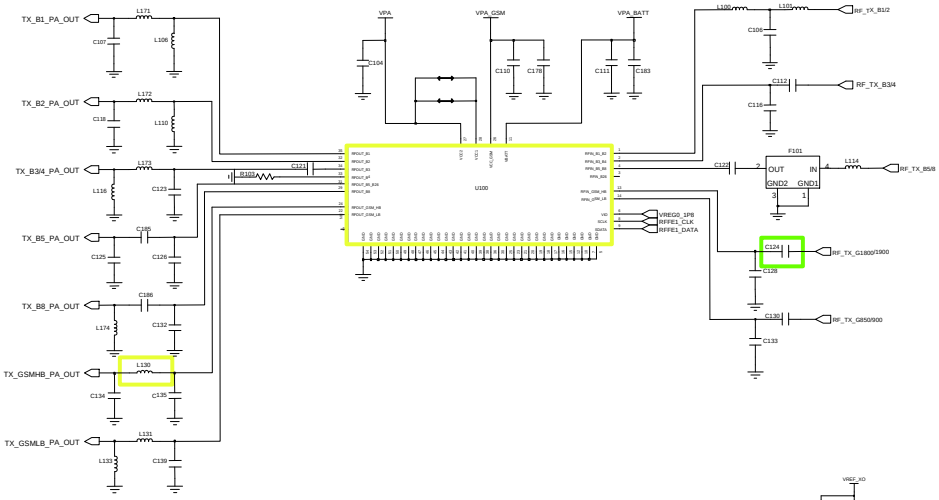

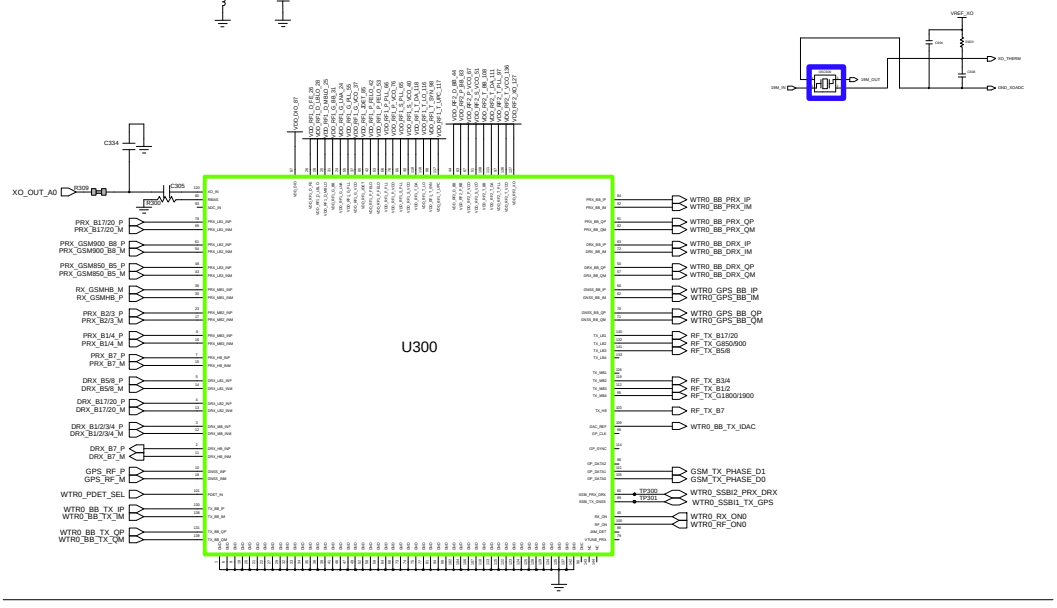

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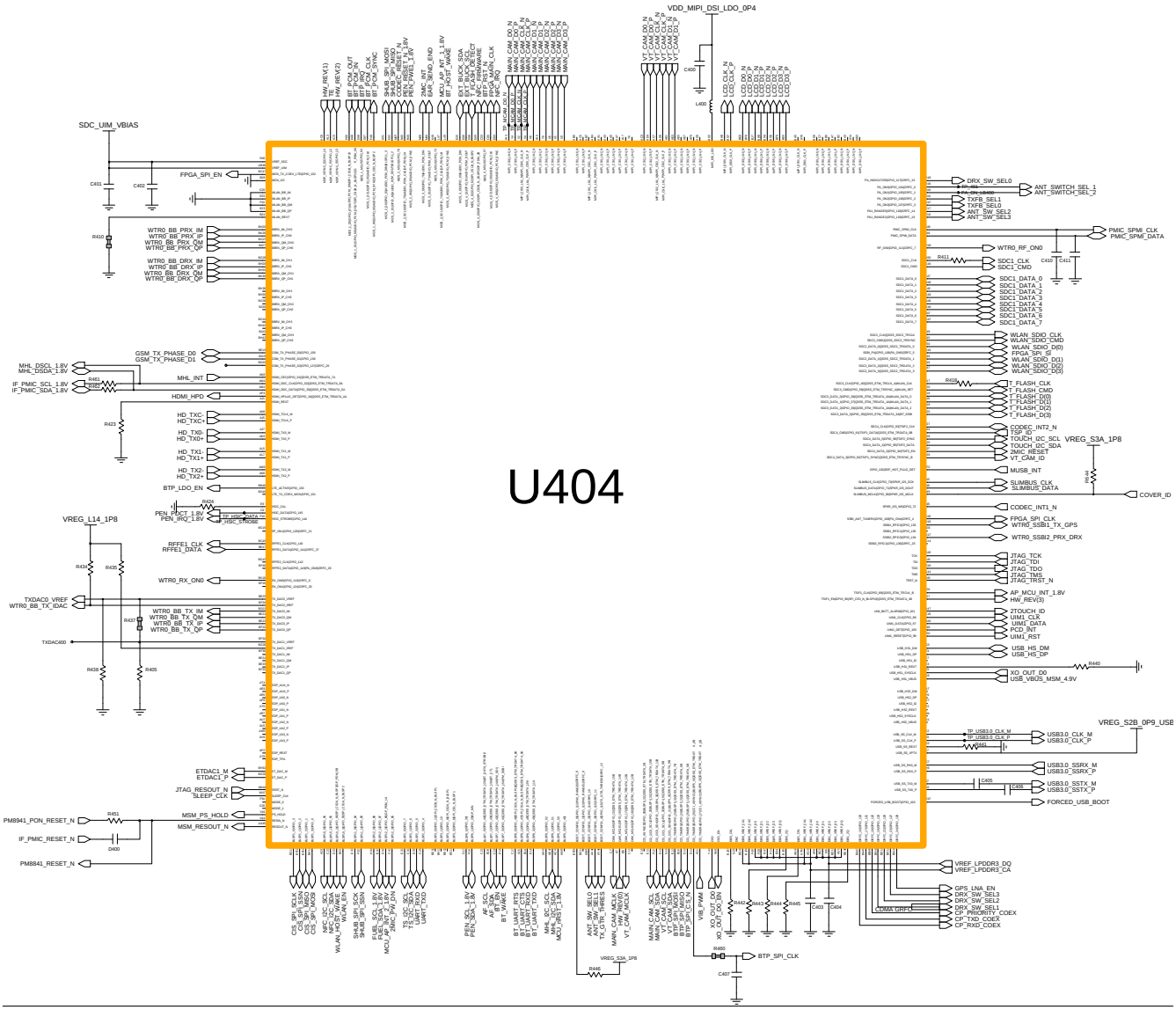

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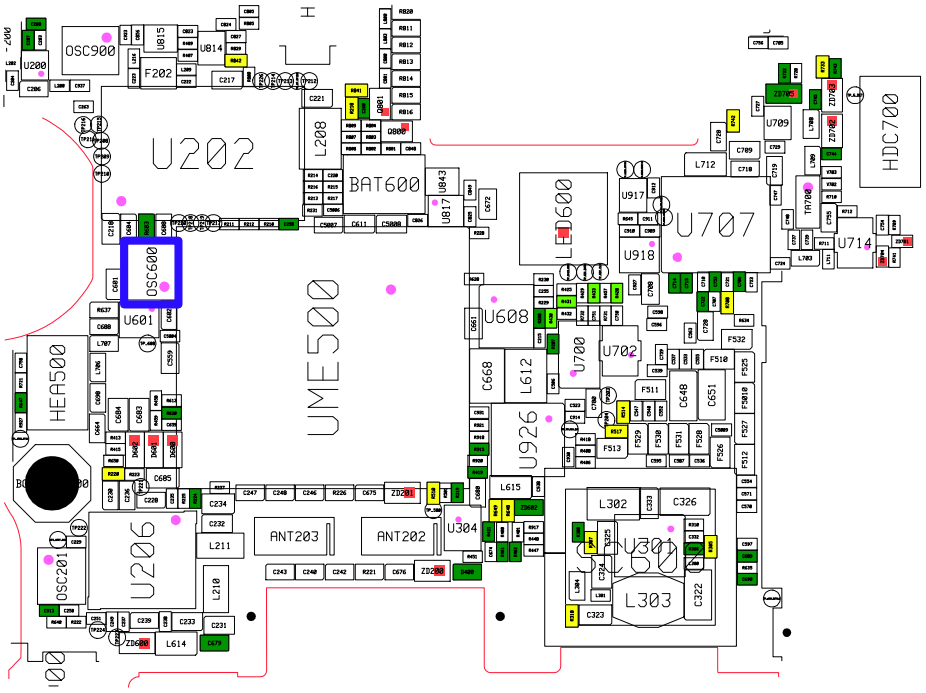

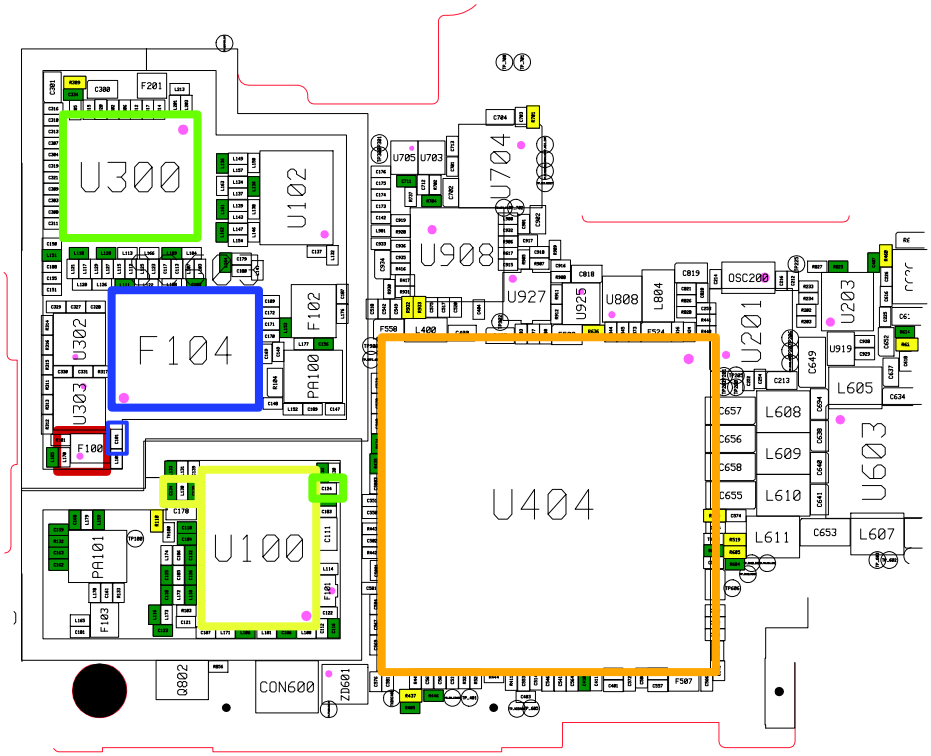

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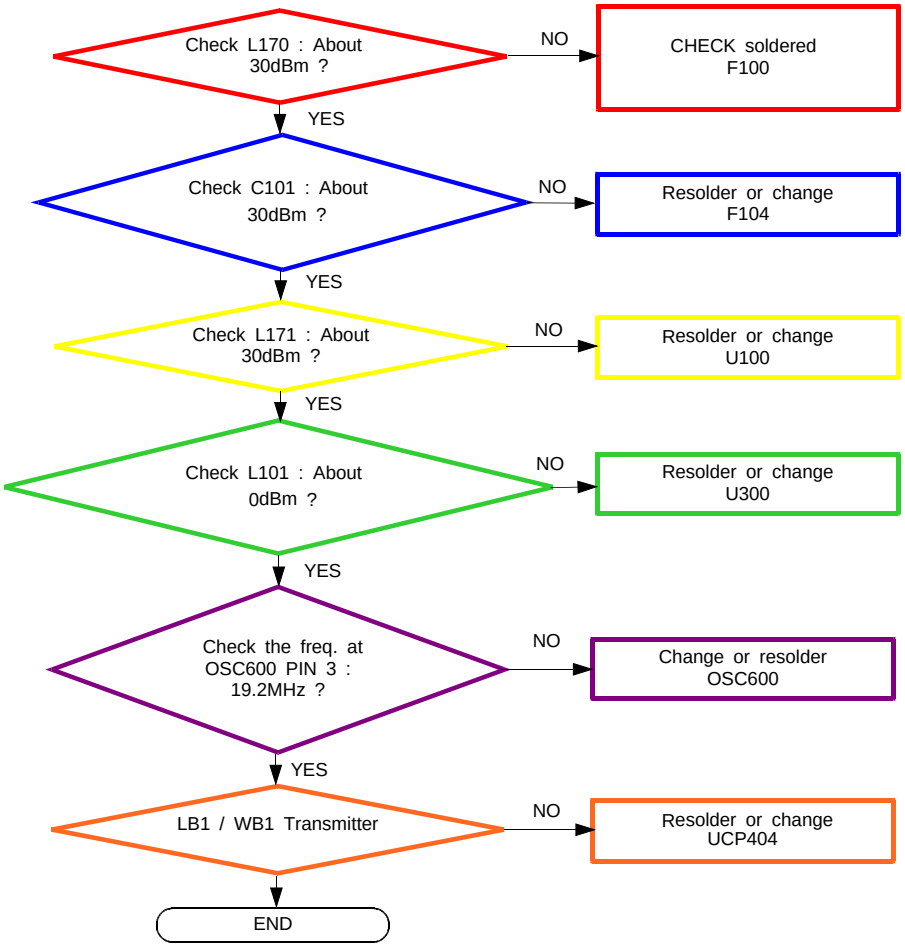
8-3-30. LTE B1 / WCDMA B1 TX

CONTINUOUS TX ON CONDITION
TX POWER IDX1 APPLIED
LTE B1 CH : 18300
WCDMA2100 CH : 9750
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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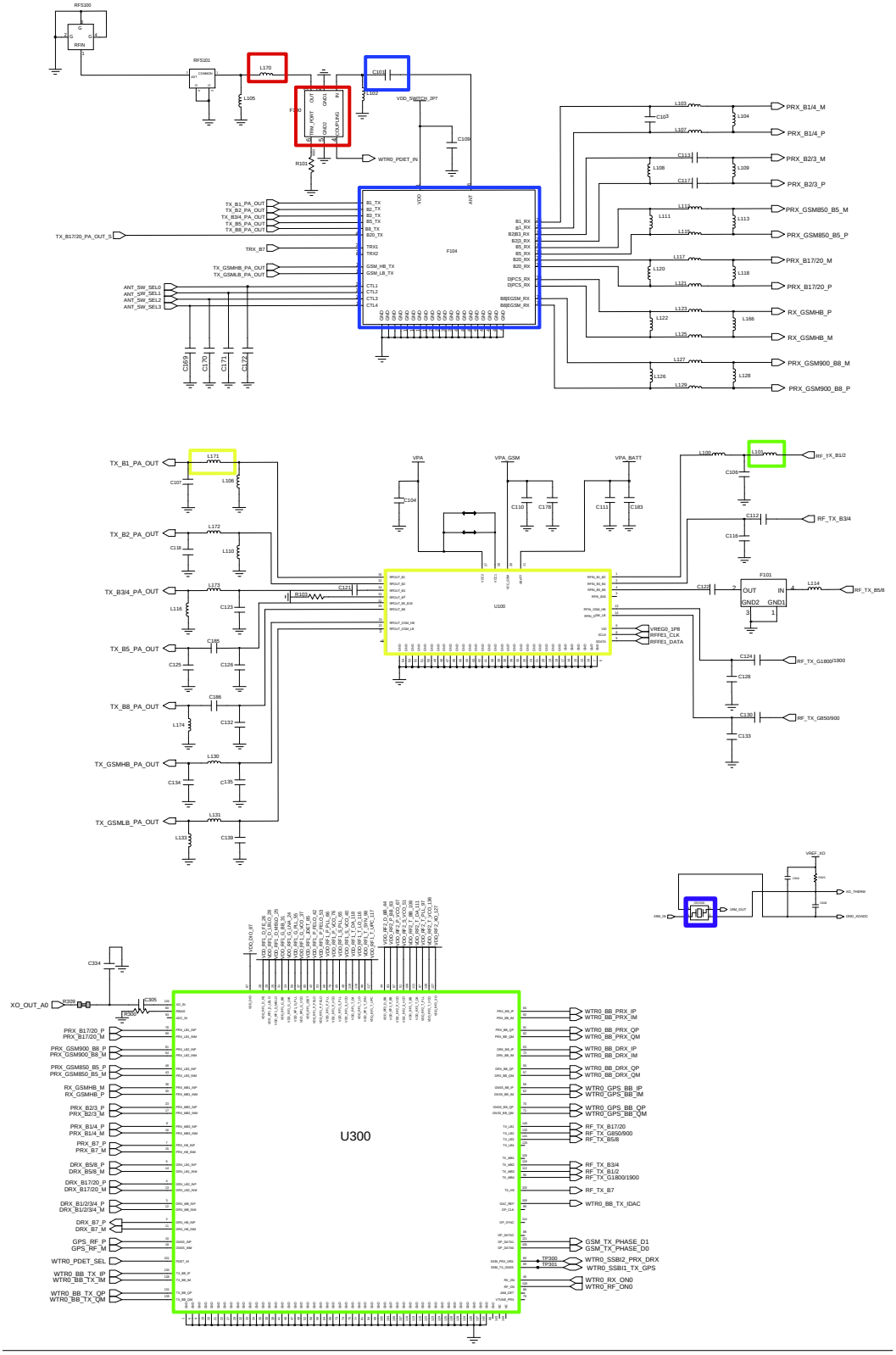

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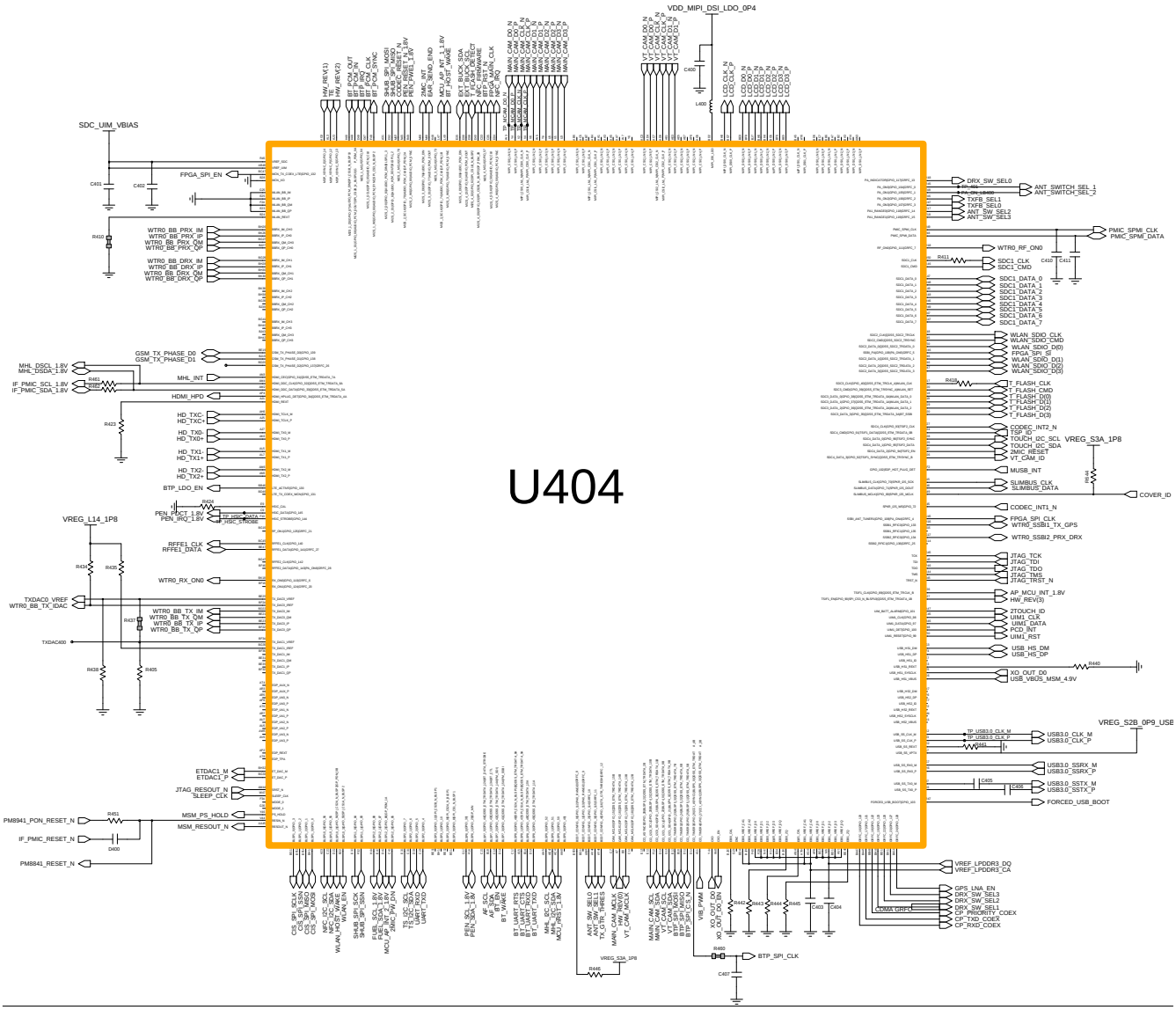

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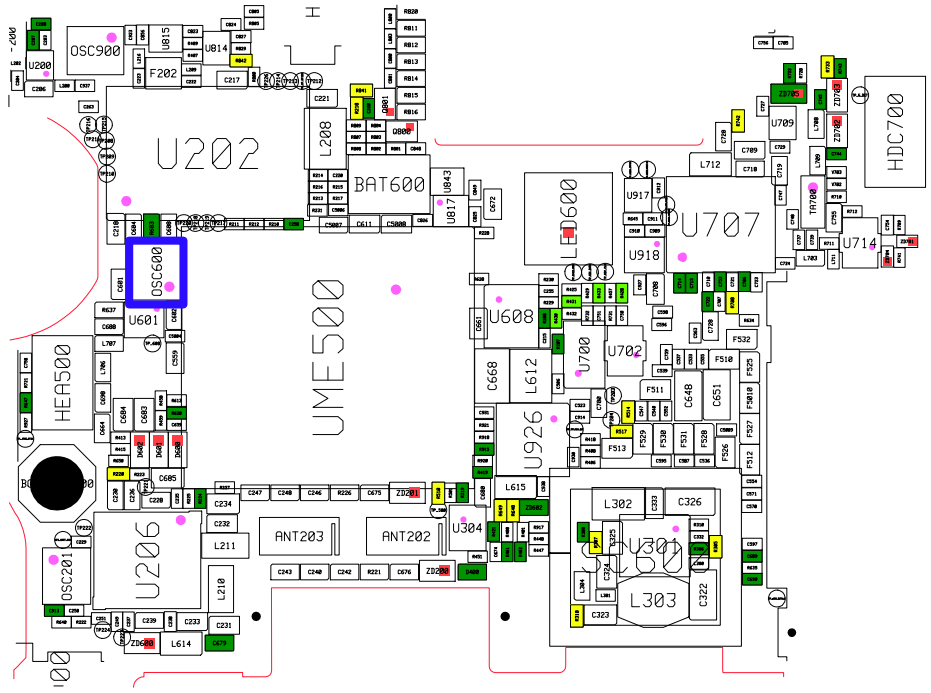

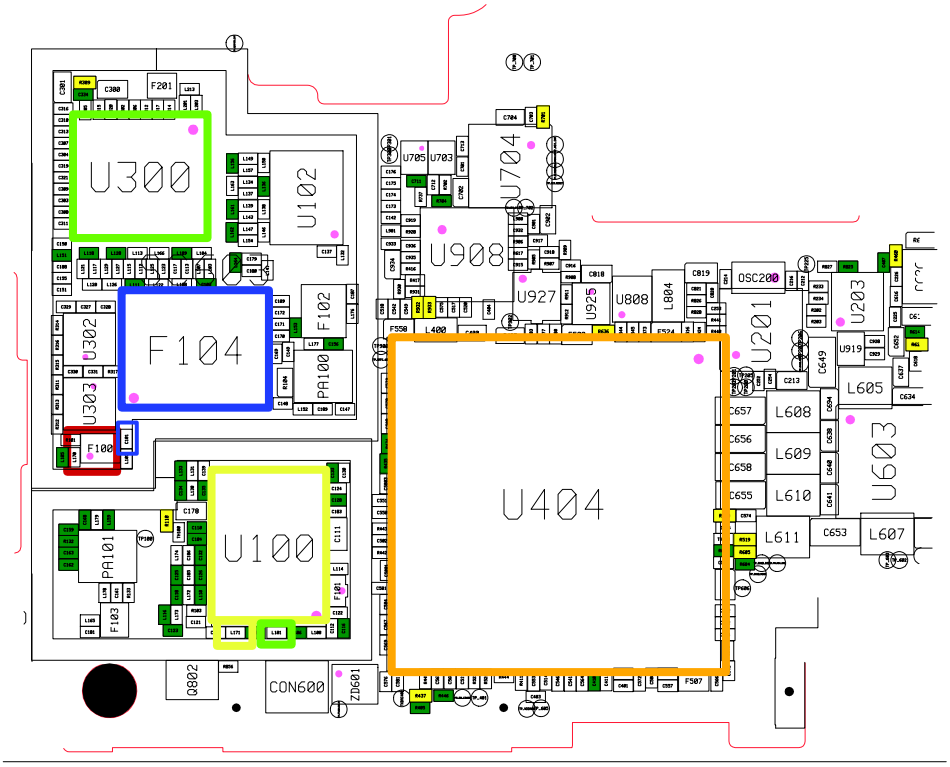

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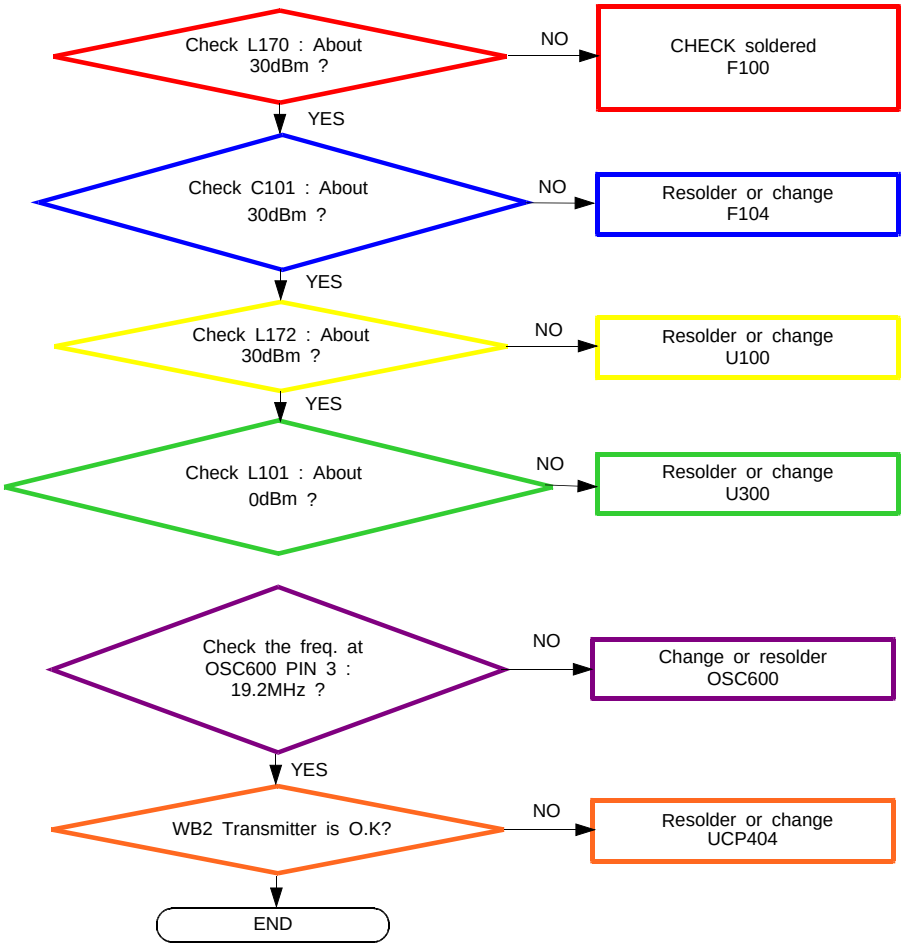
8-3-31. WCDMA B2 TX

CONTINUOUS TX ON CONDITION
TX POWER IDX1 APPLIED
WCDMA B2 CH : 9400
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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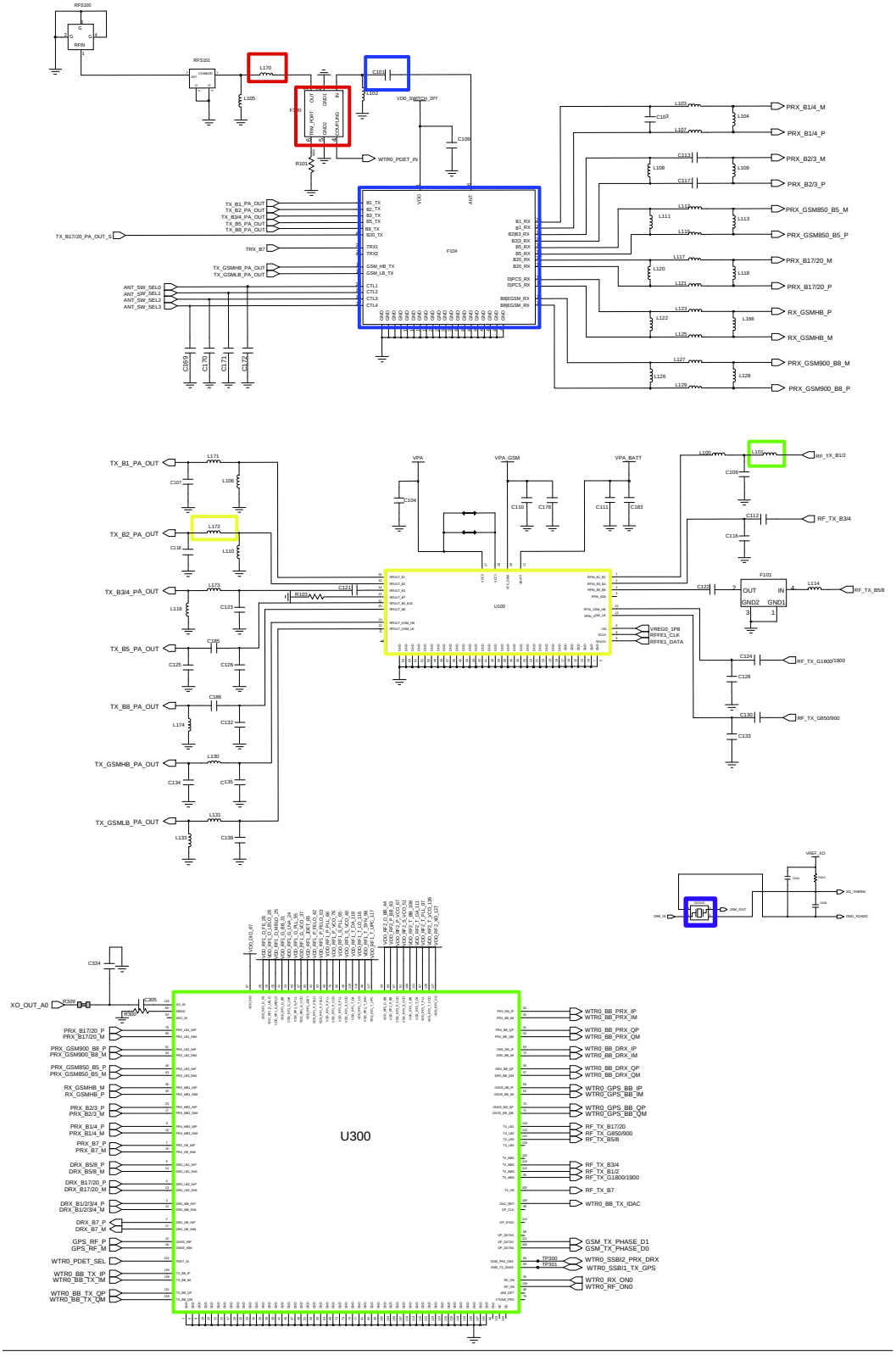

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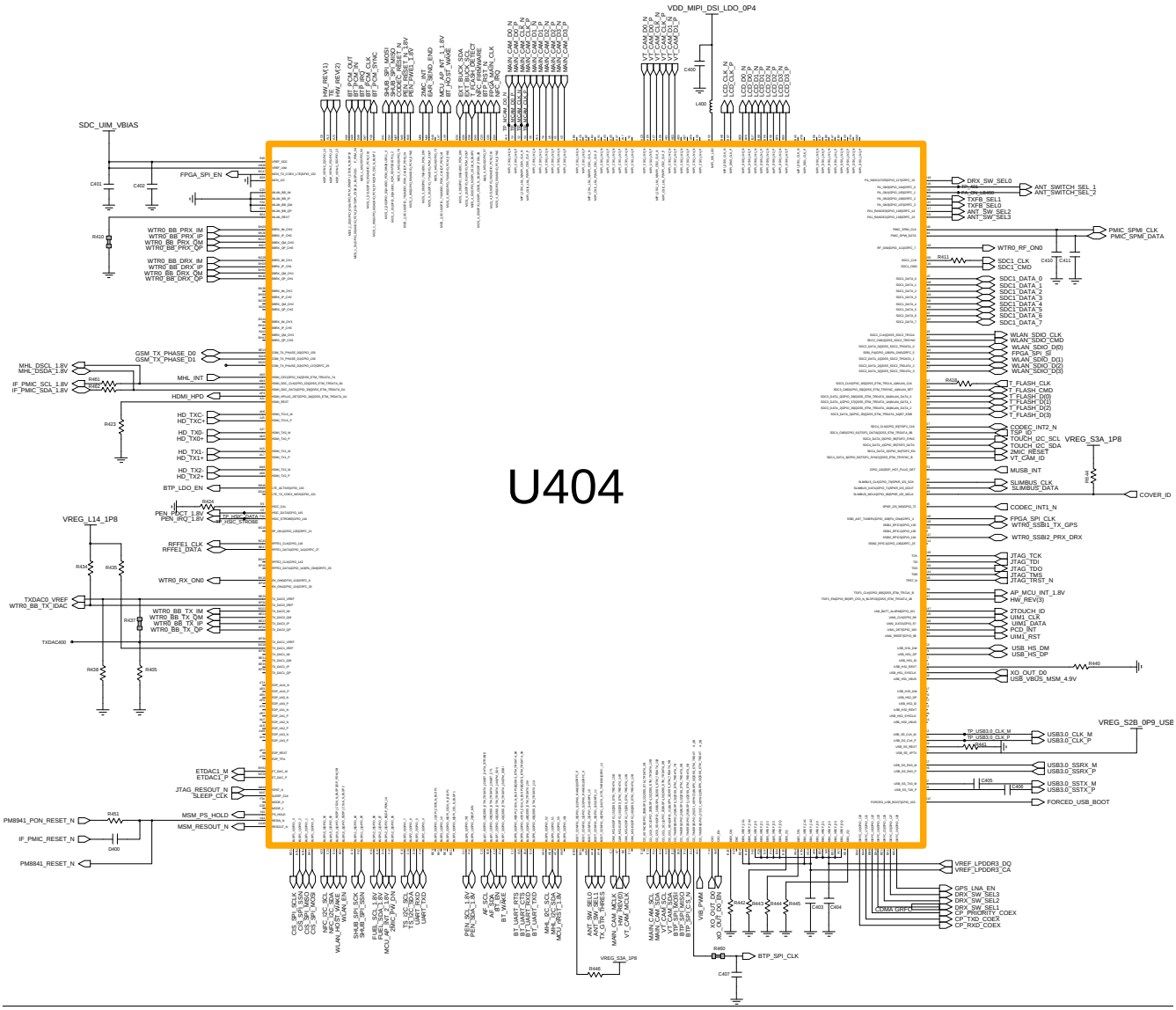

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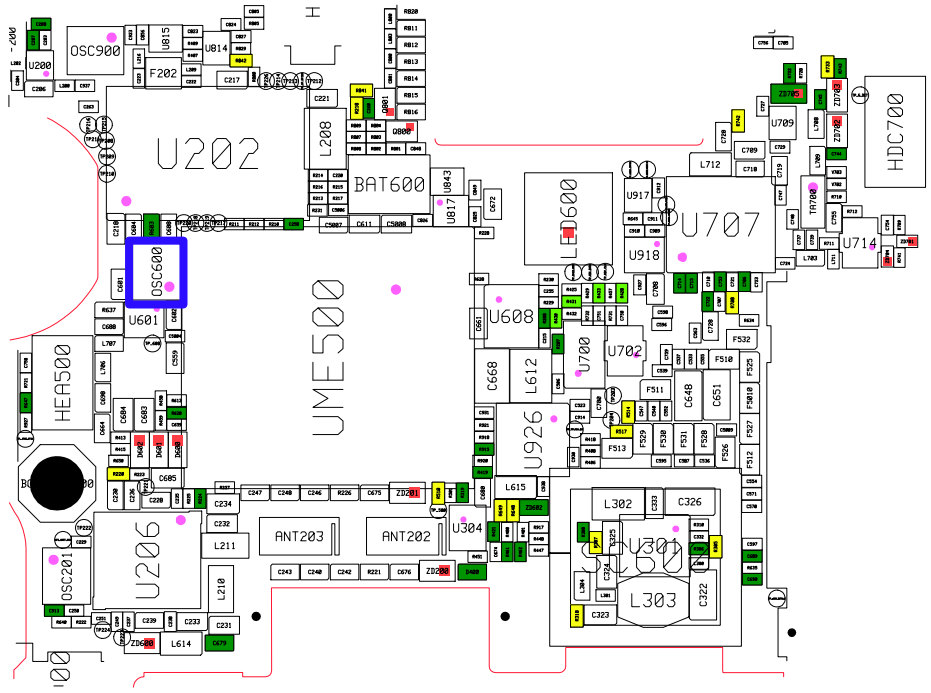

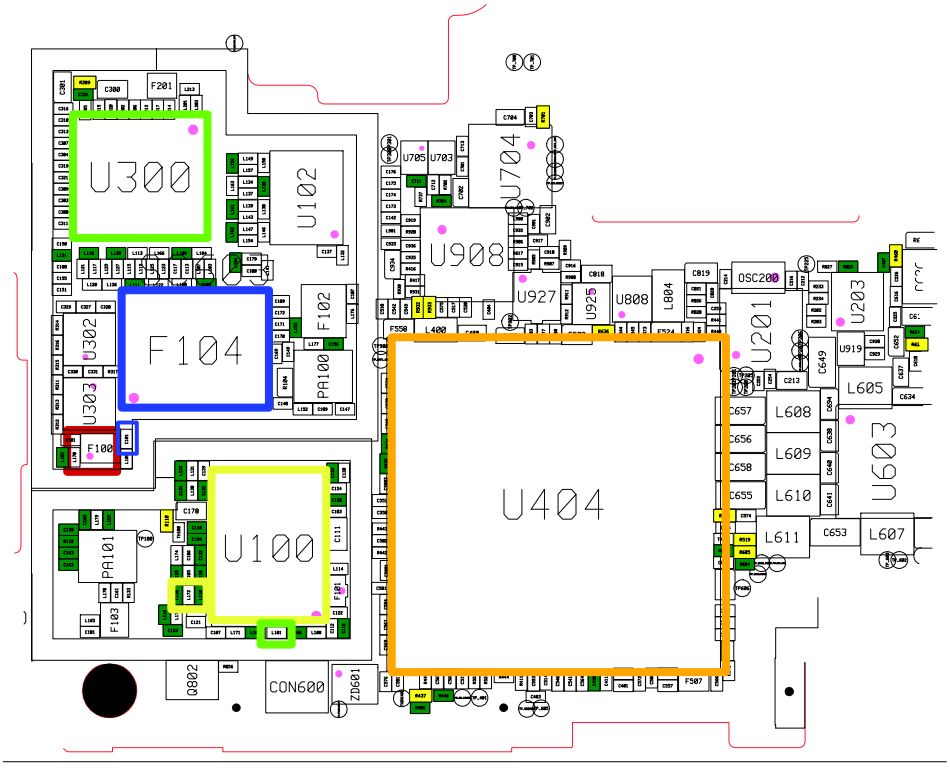

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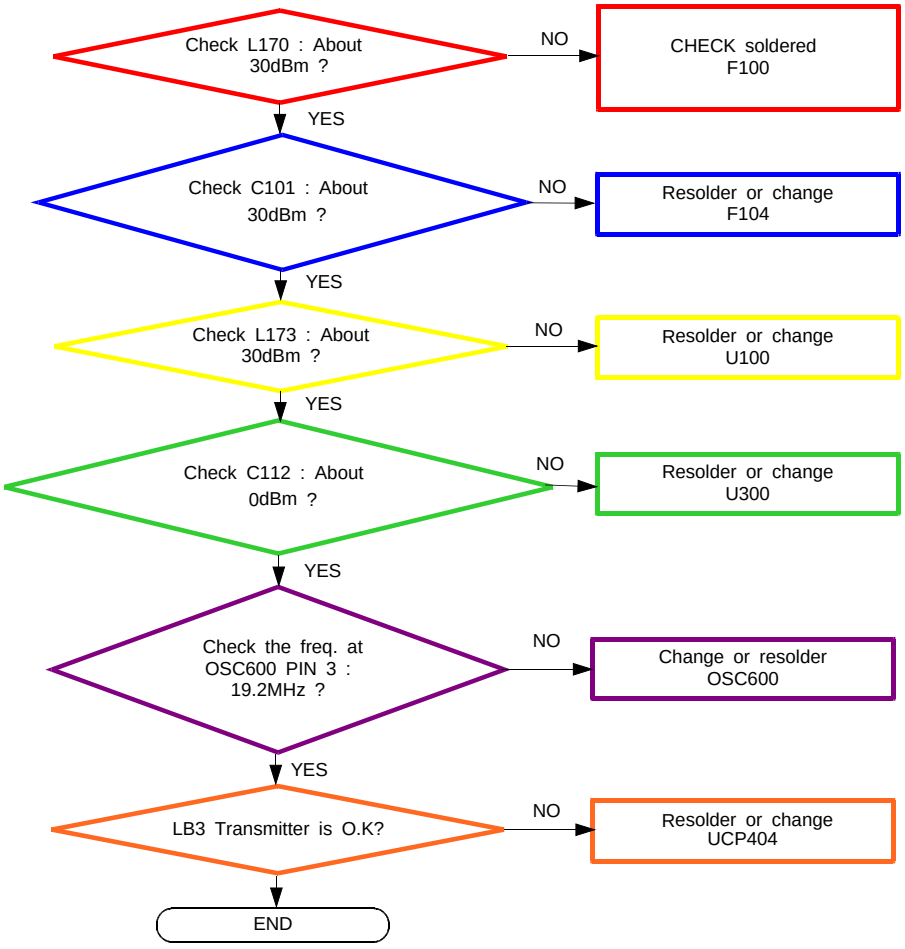
8-3-32. LTE B3 TX

CONTINUOUS TX ON CONDITION
TX POWER IDX1 APPLIED
LTE B3 CH : 19575
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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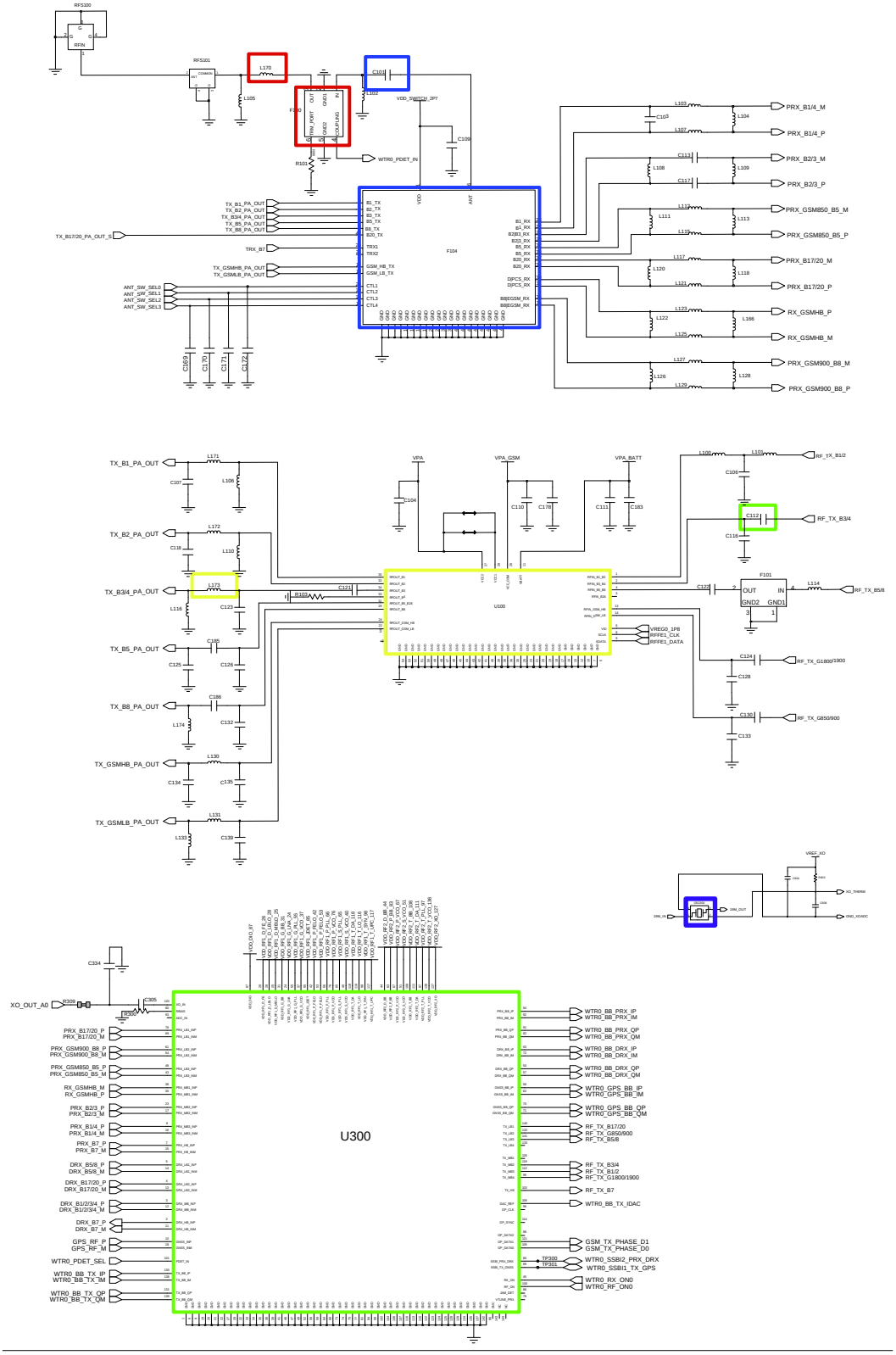

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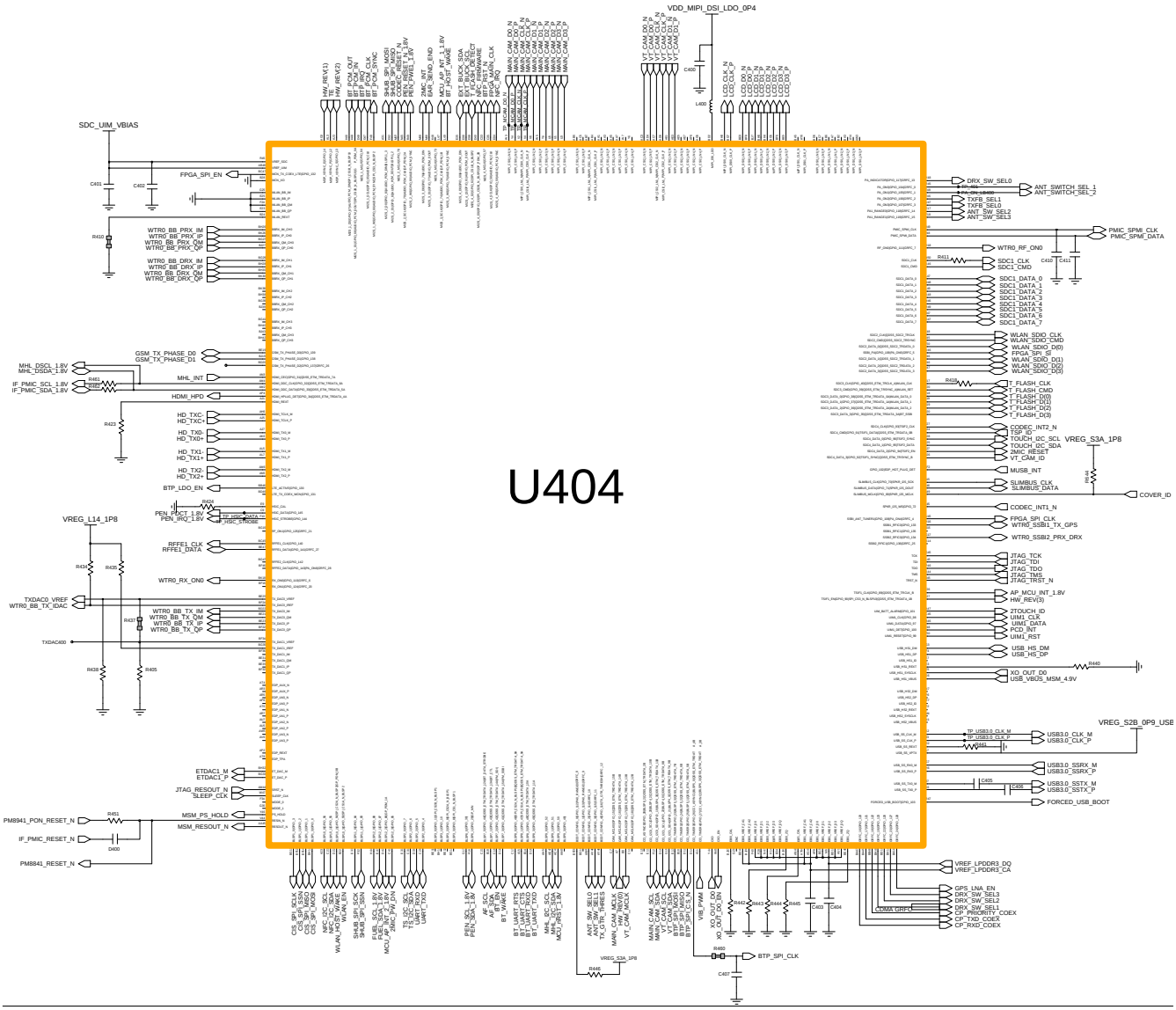

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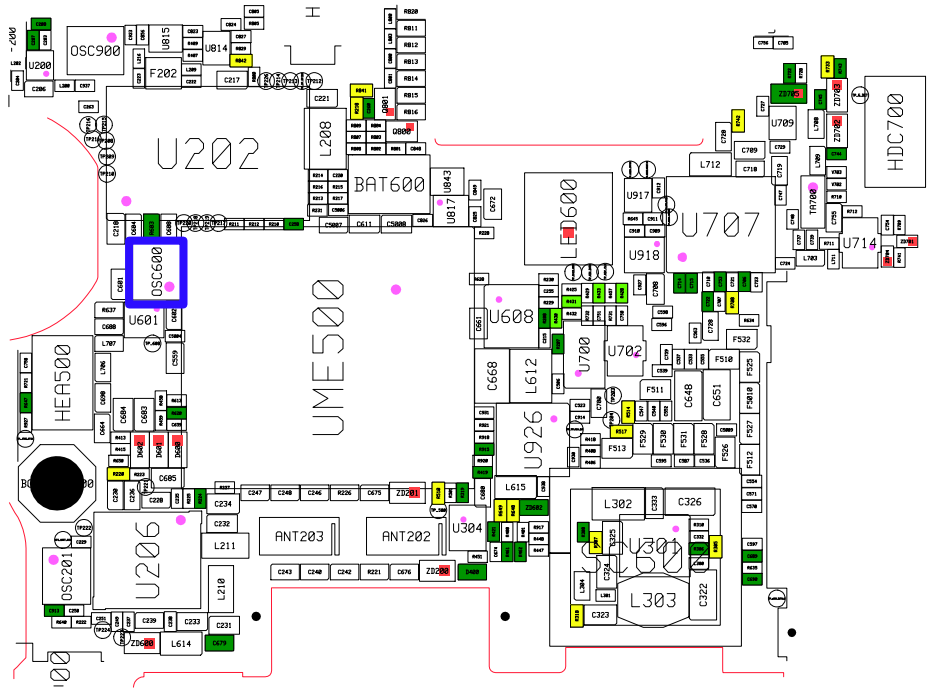

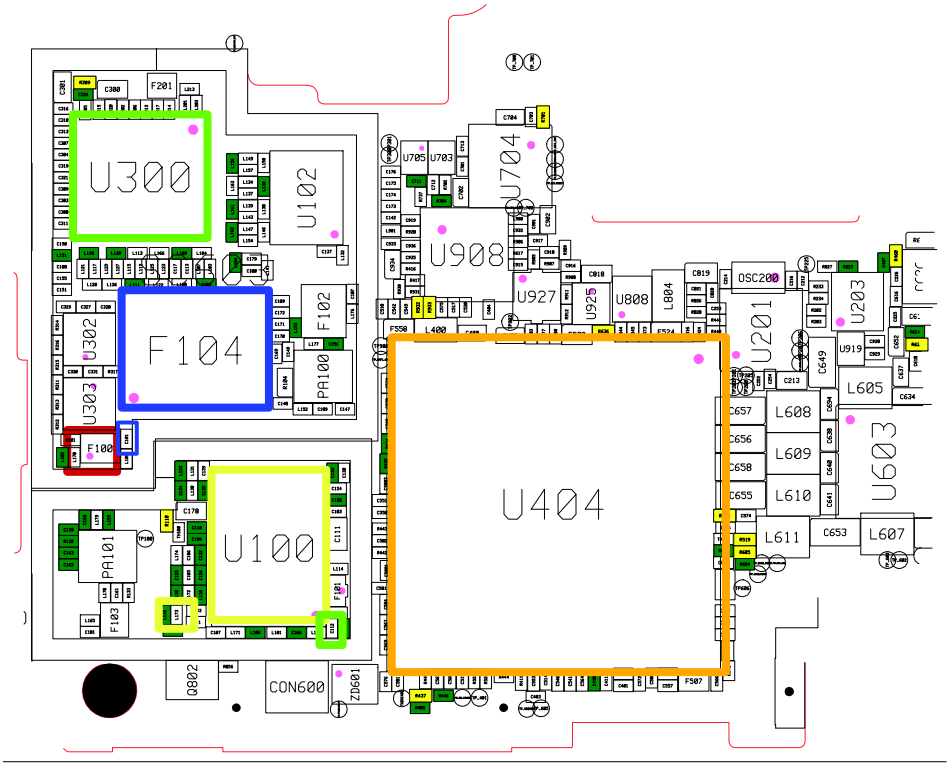

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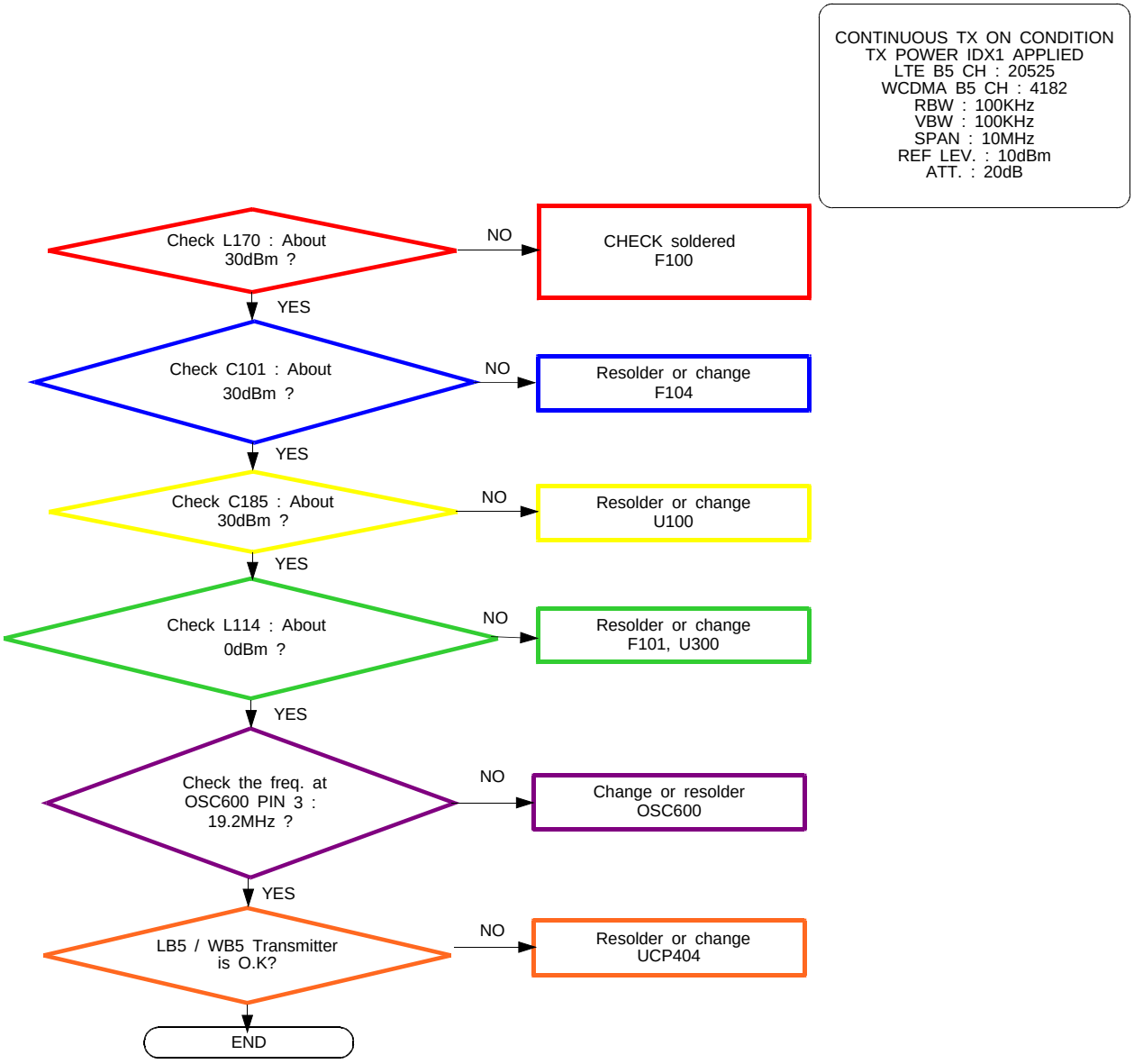
8-3-33. LTE B5 / WCDMA B5 TX



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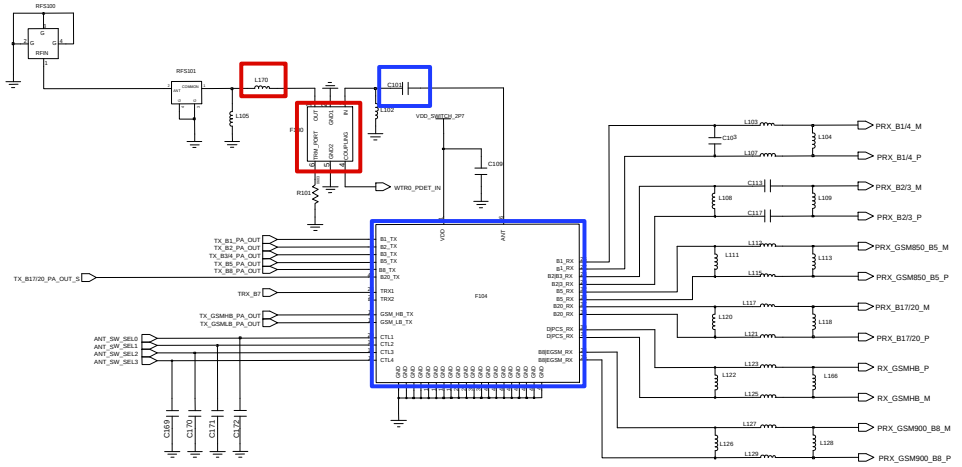

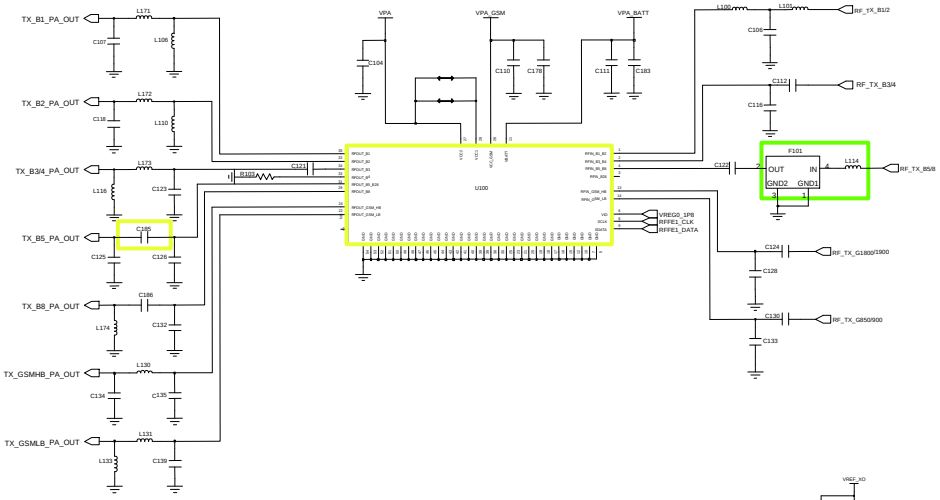

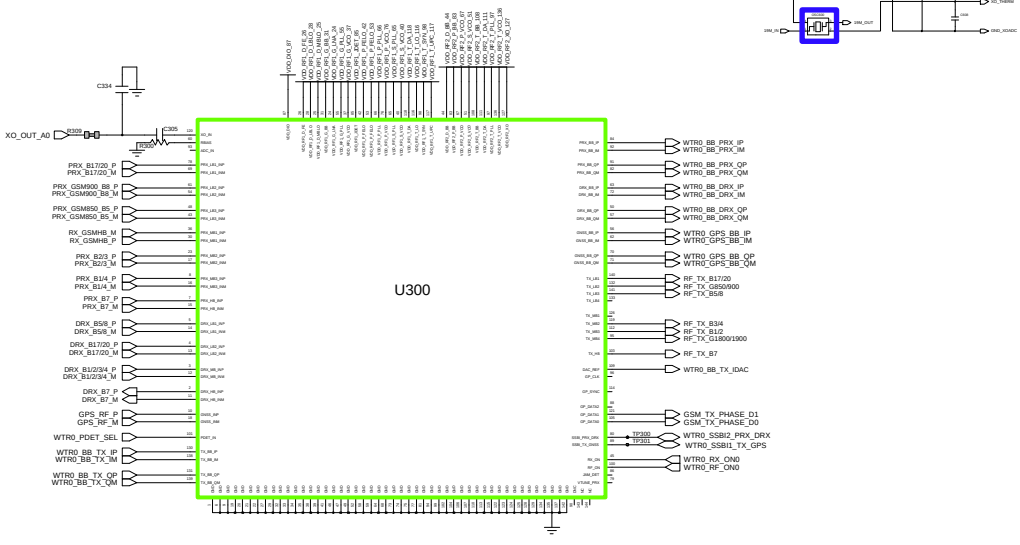

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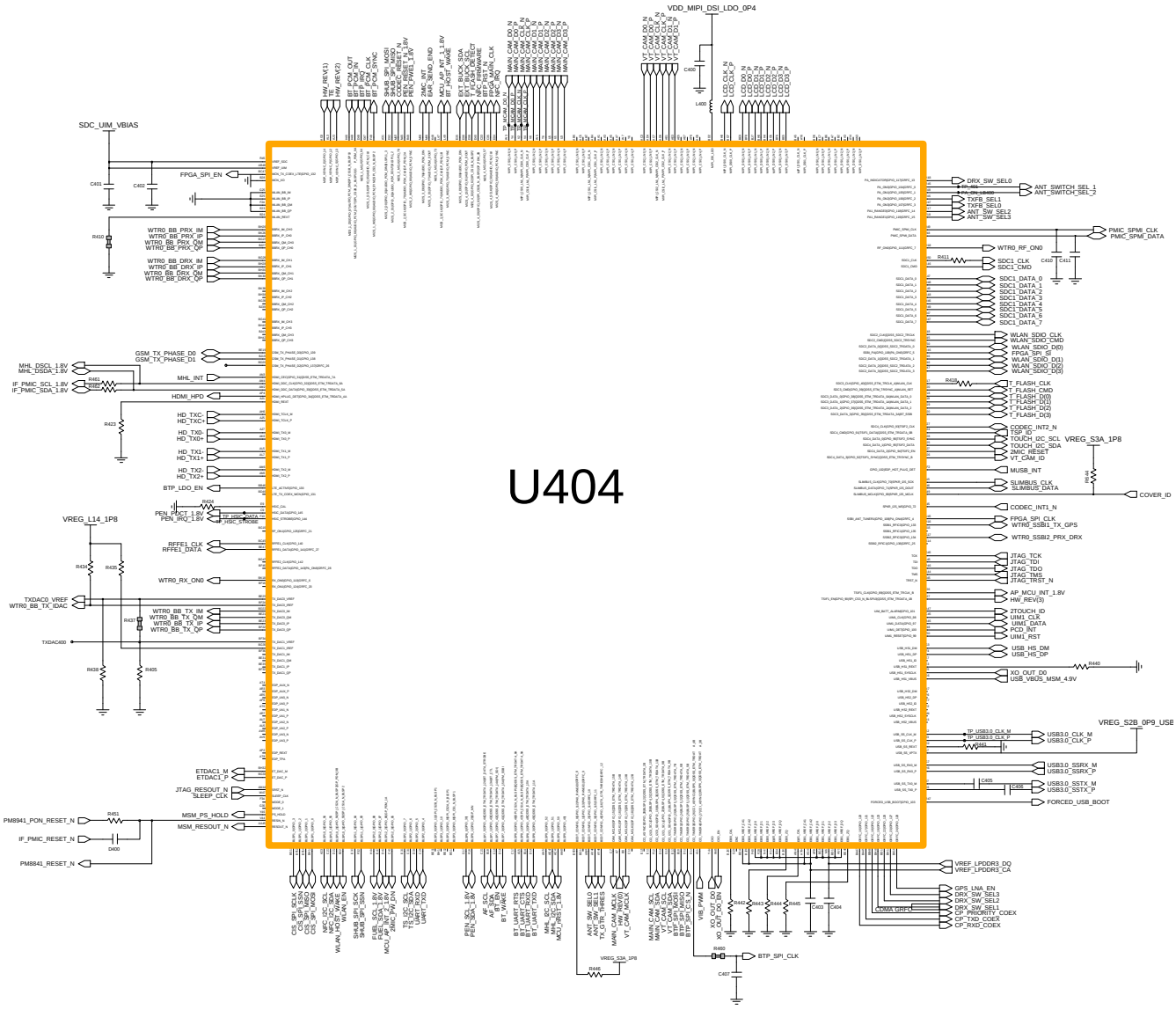

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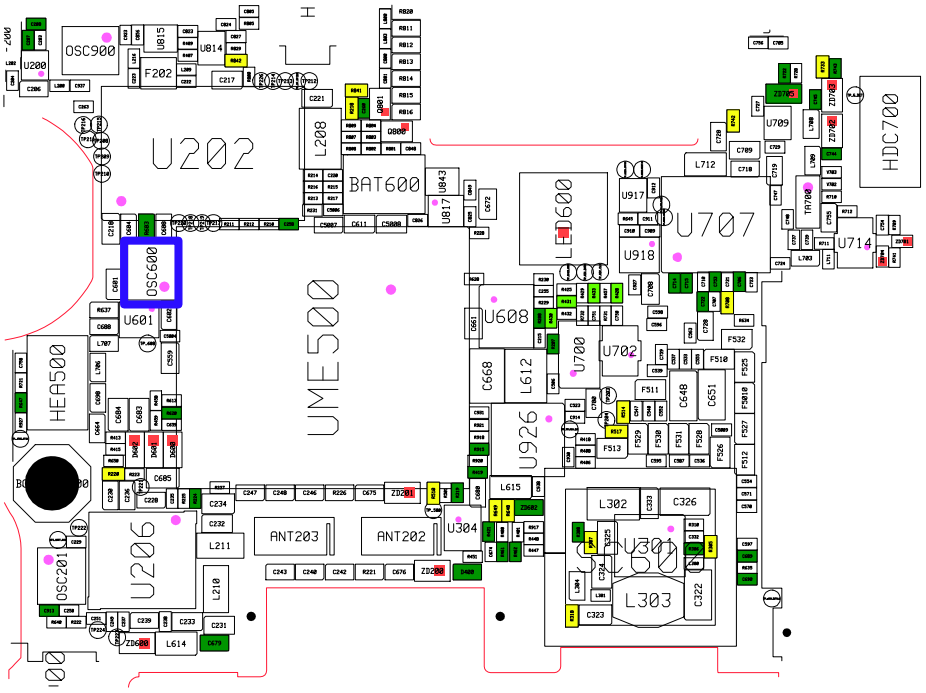

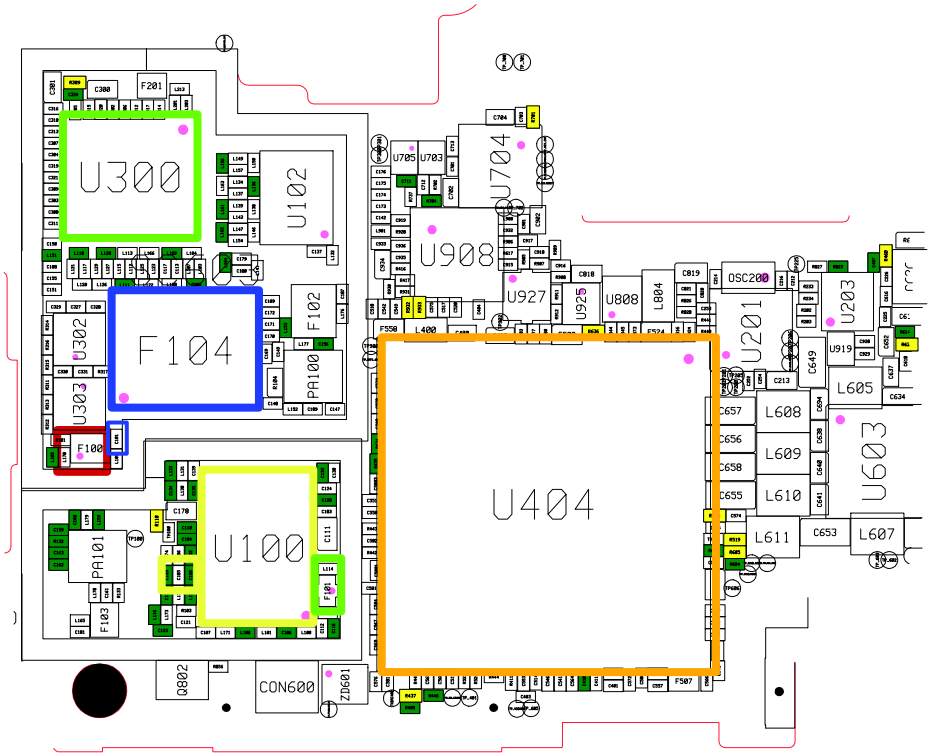

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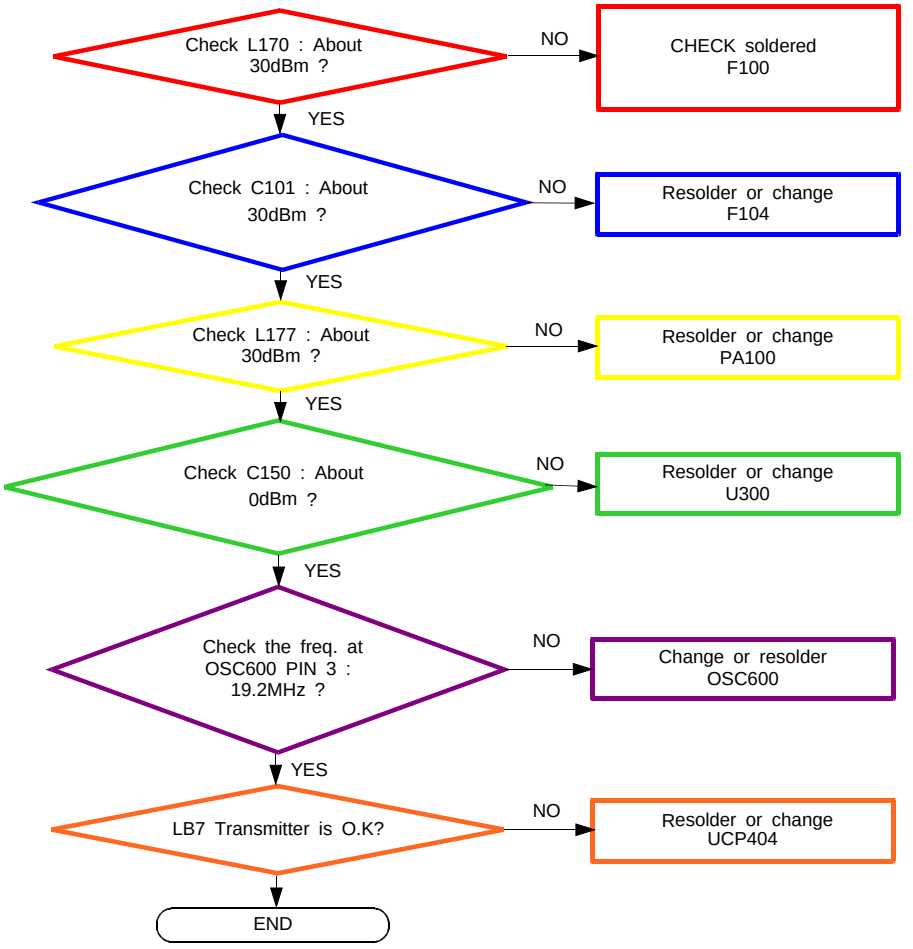
8-3-34. LTE B7 TX

CONTINUOUS TX ON CONDITION
TX POWER IDX1 APPLIED
LTE B7 CH : 21100
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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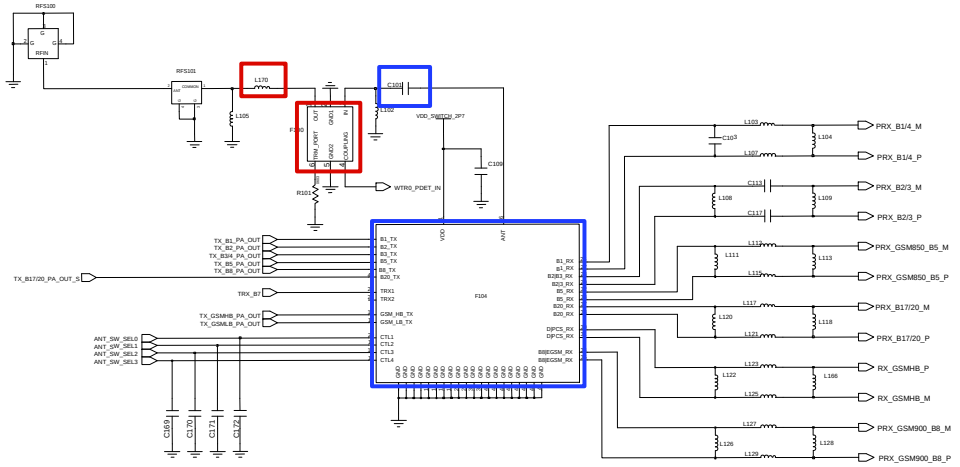

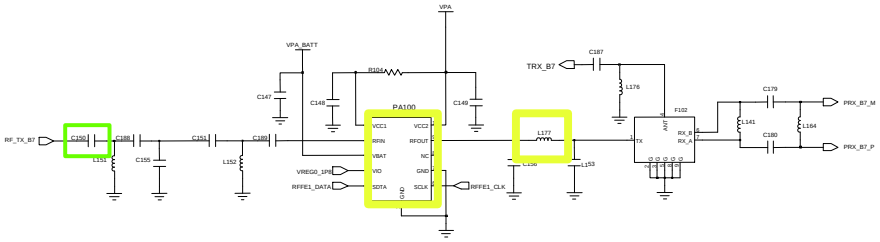

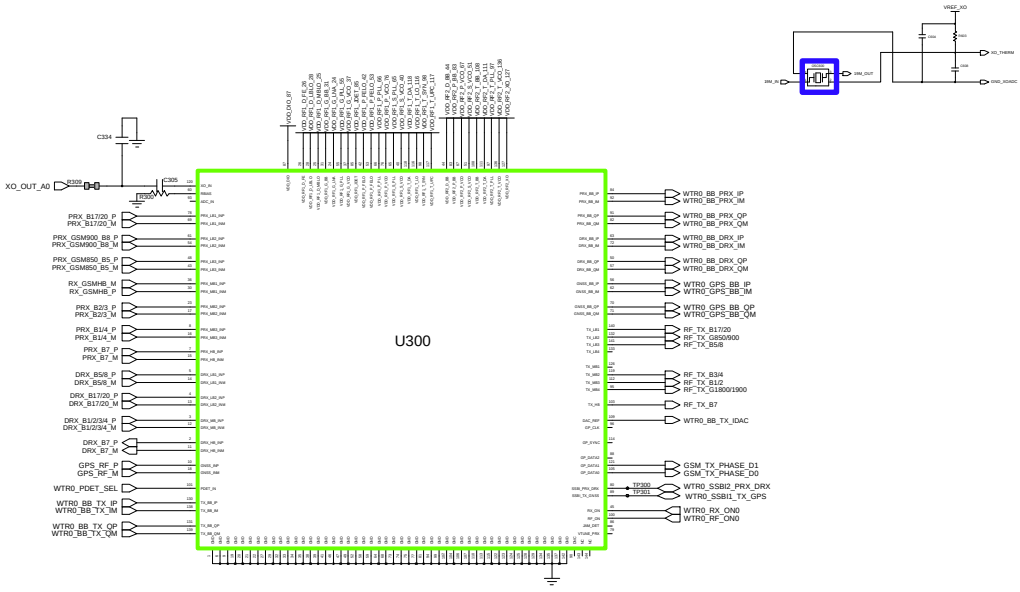

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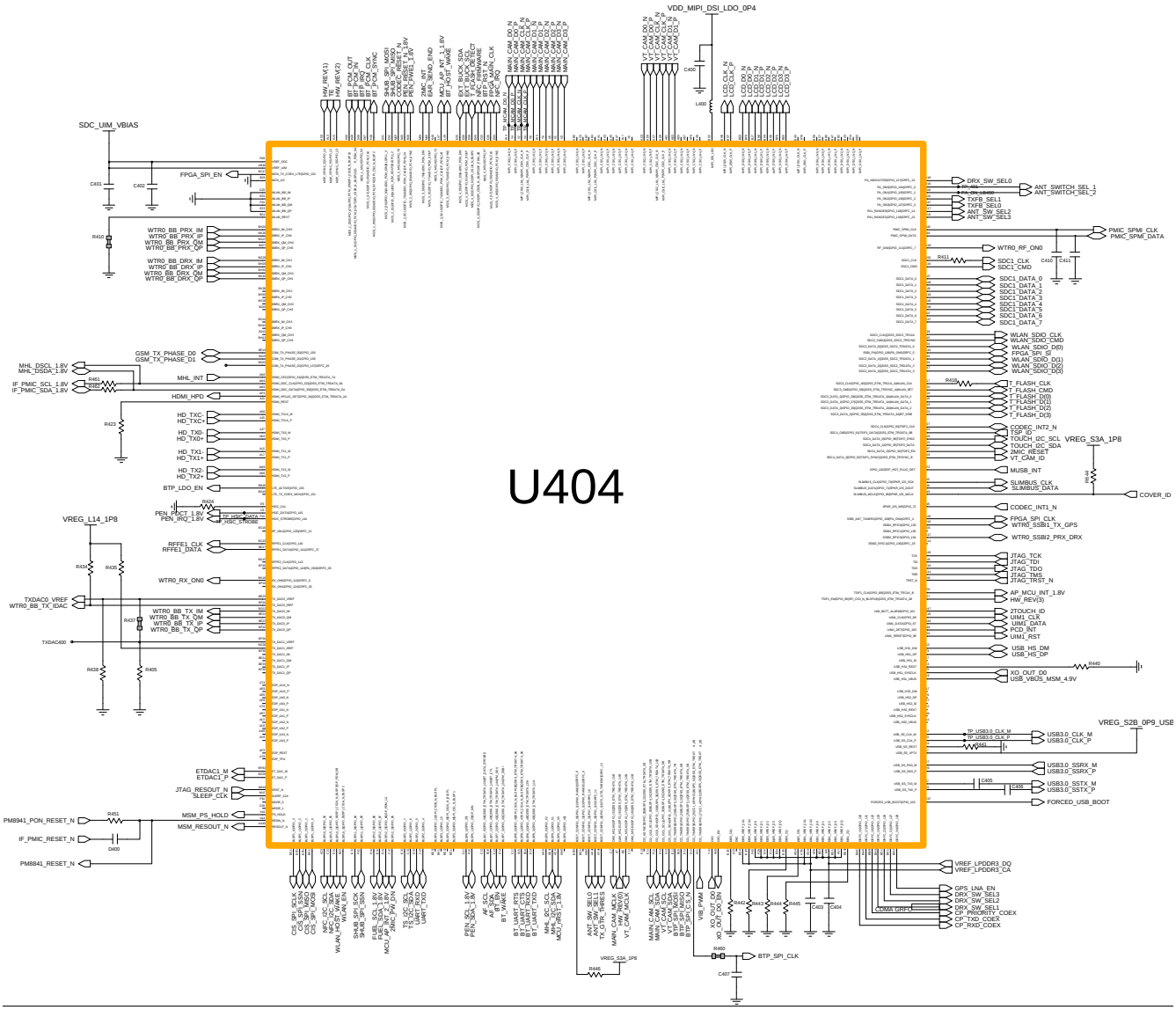

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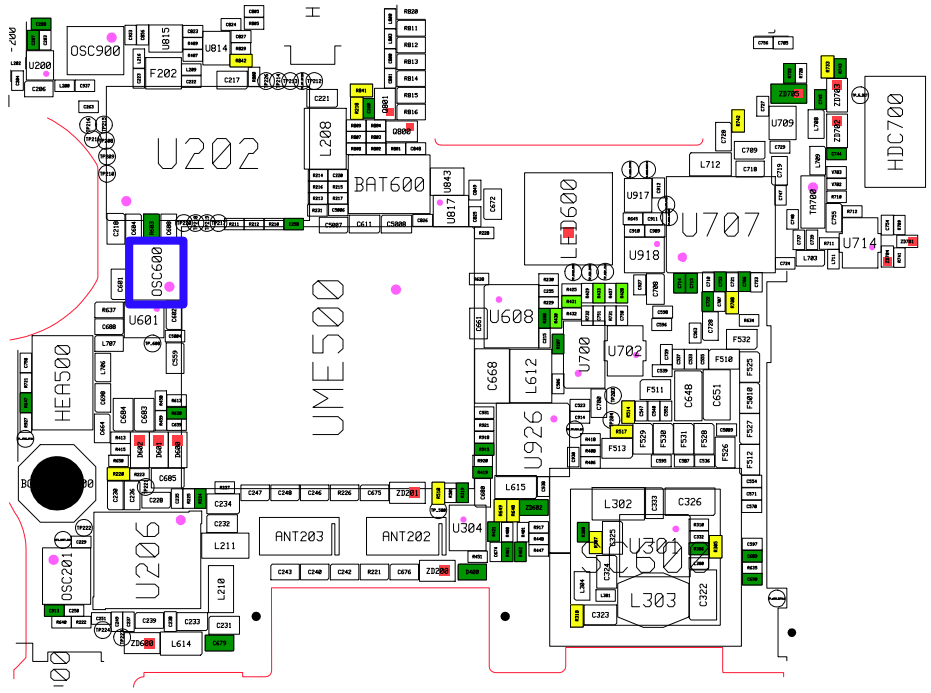

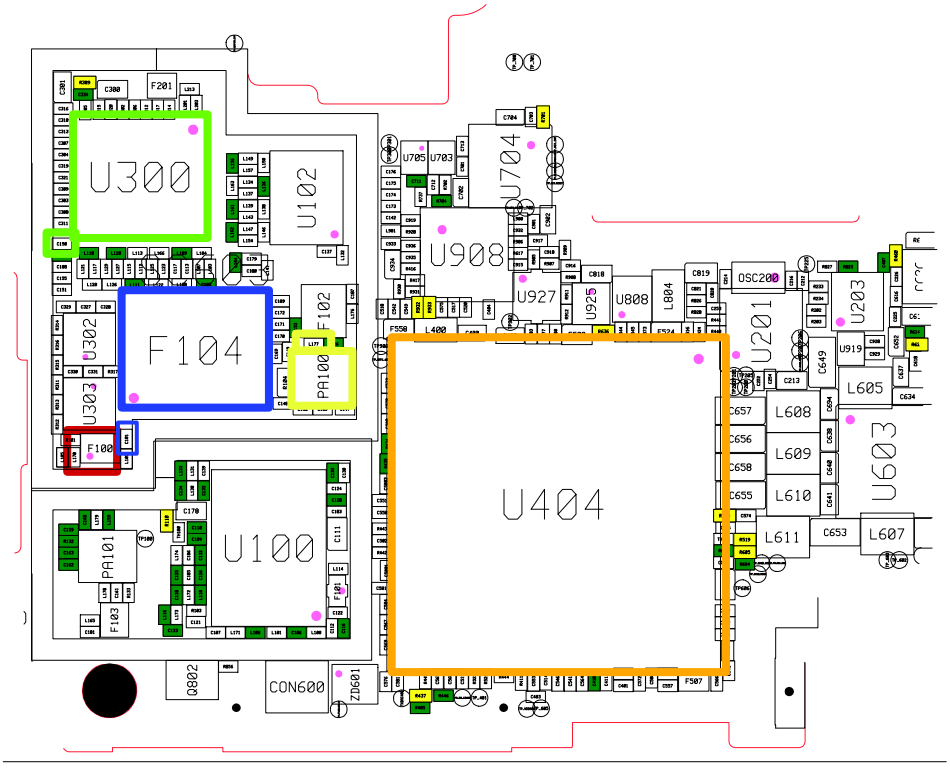

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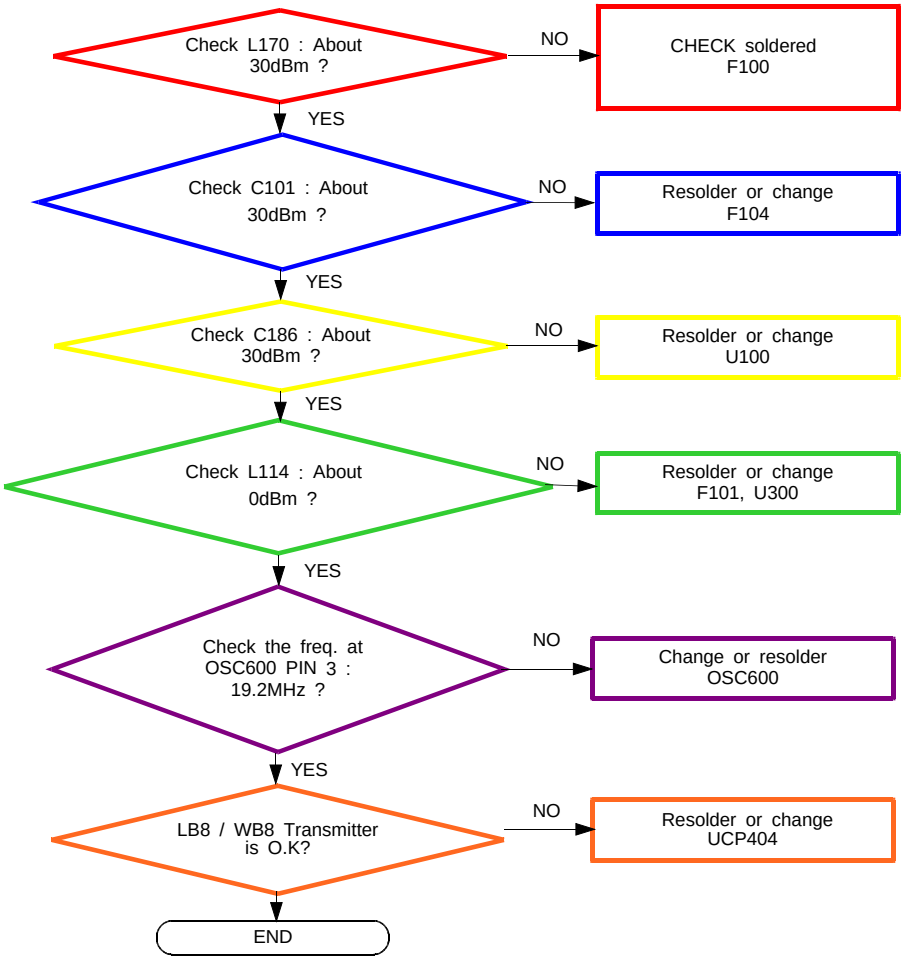
8-3-35. LTE B8 / WCDMA B8 TX

CONTINUOUS TX ON CONDITION
TX POWER IDX1 APPLIED
LTE B8 CH : 21625
WCDMA B8 CH : 2788
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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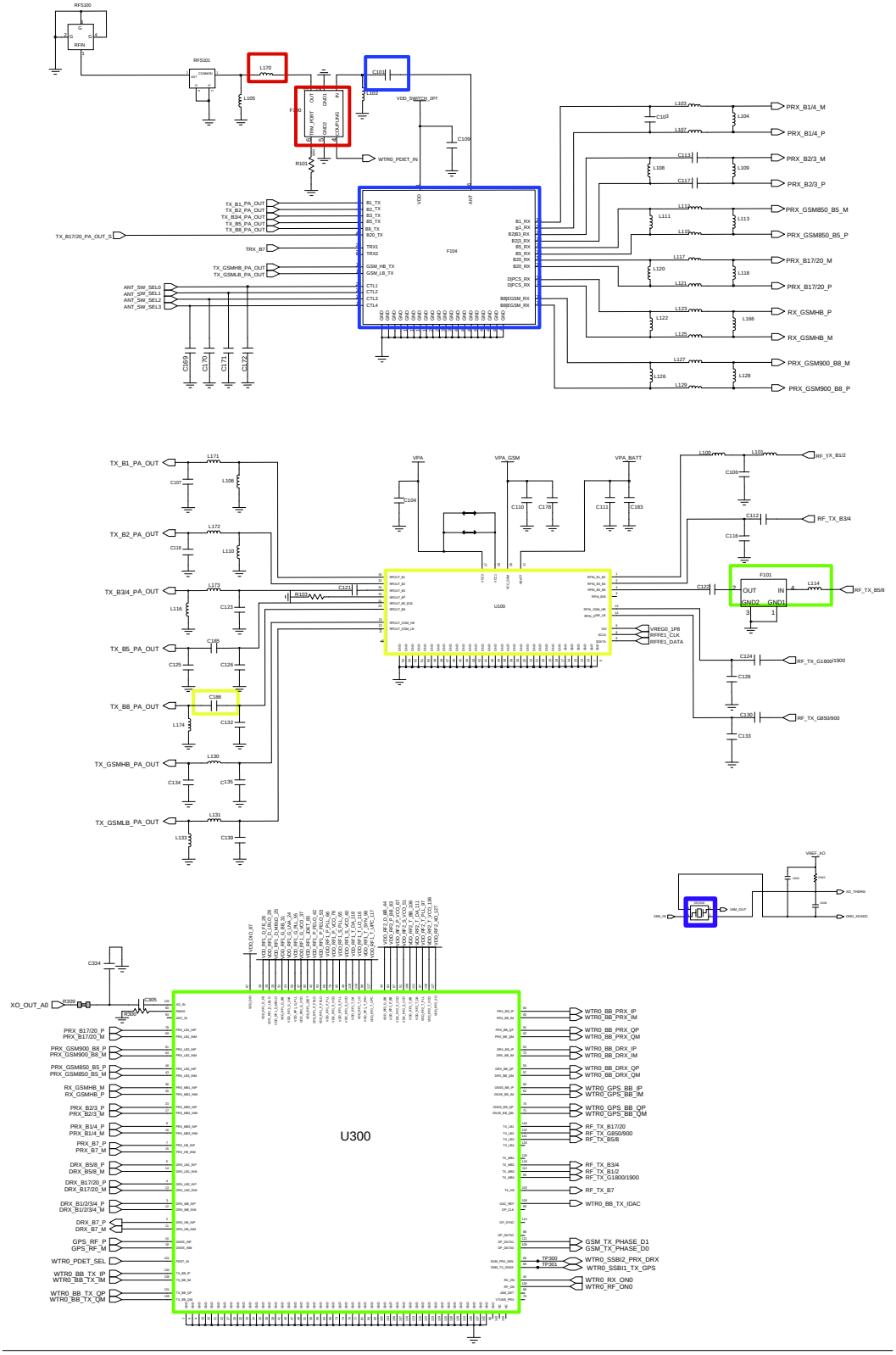

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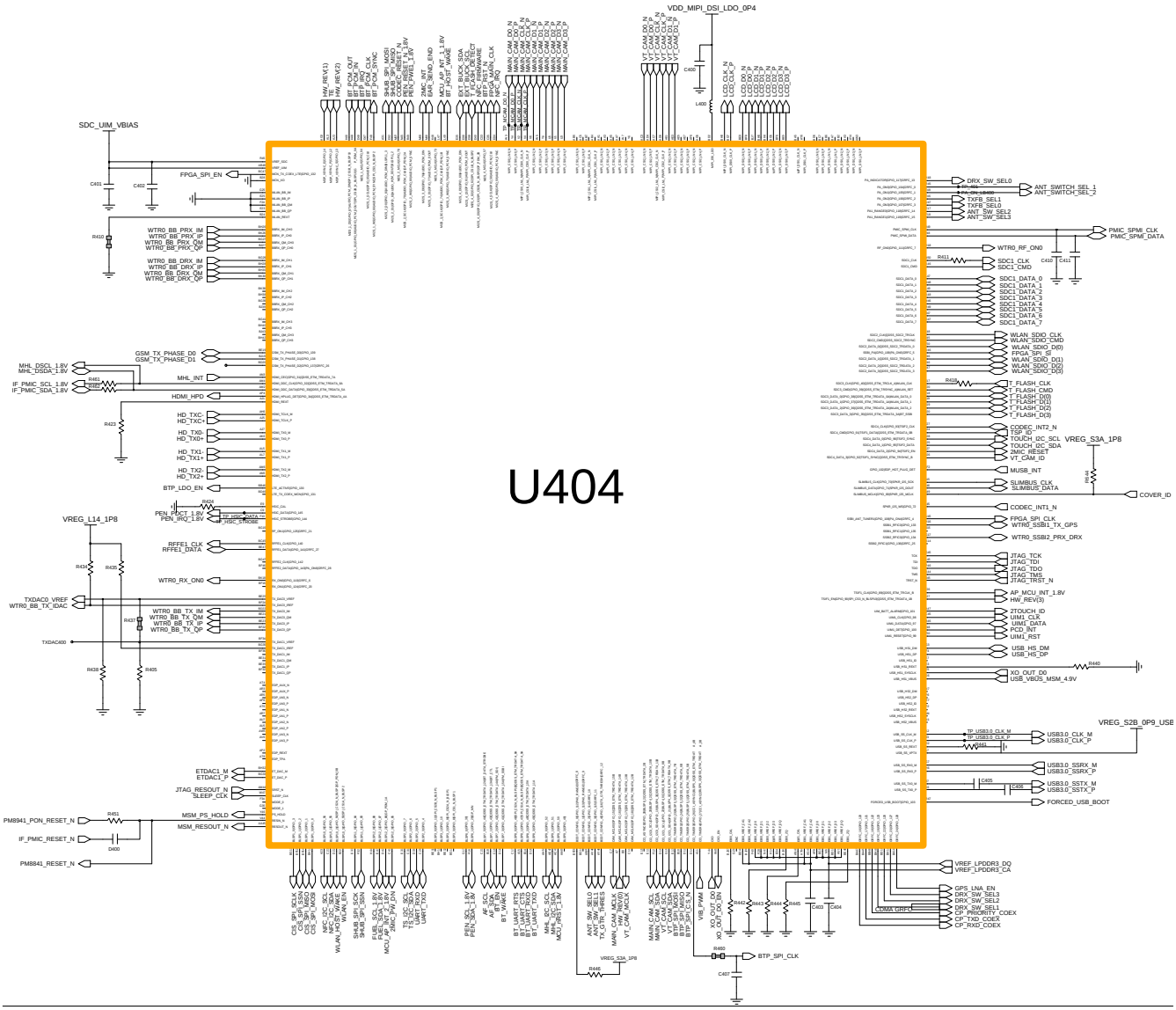

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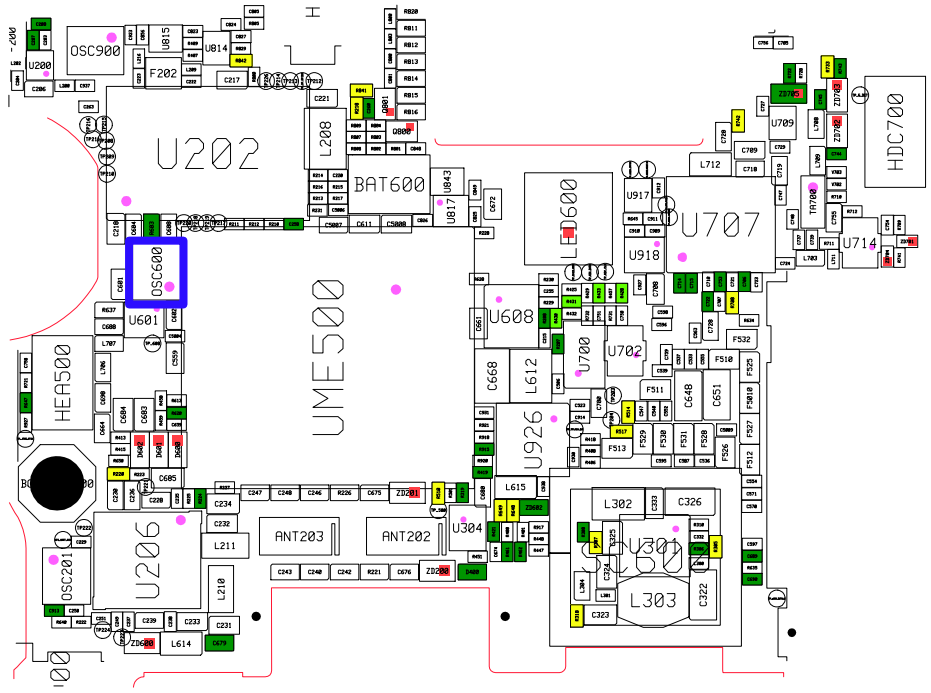

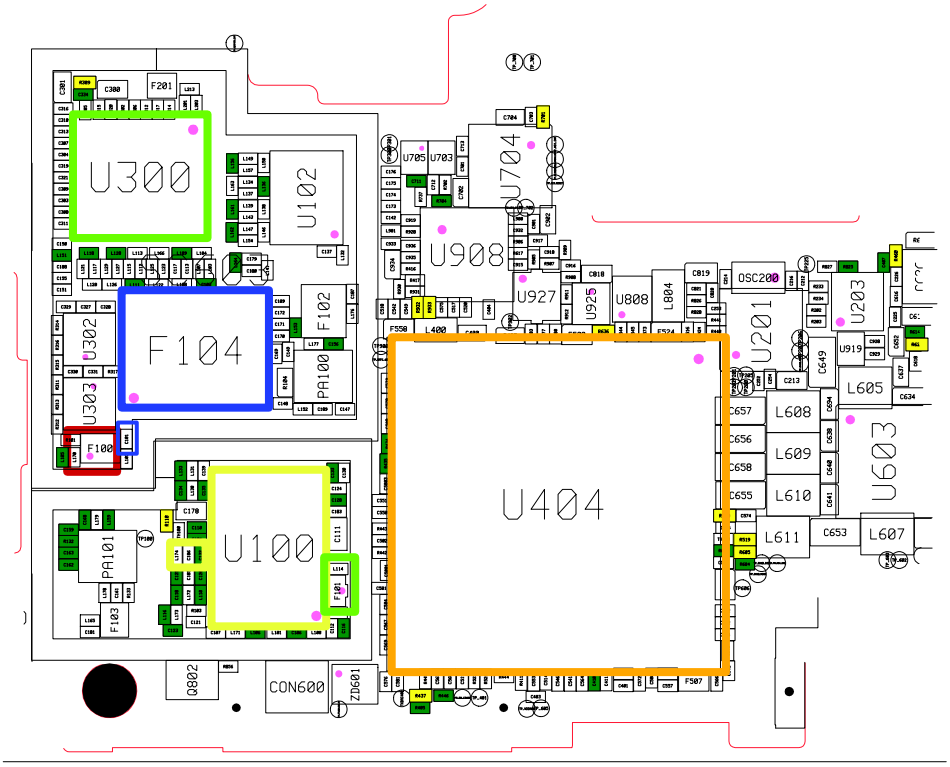

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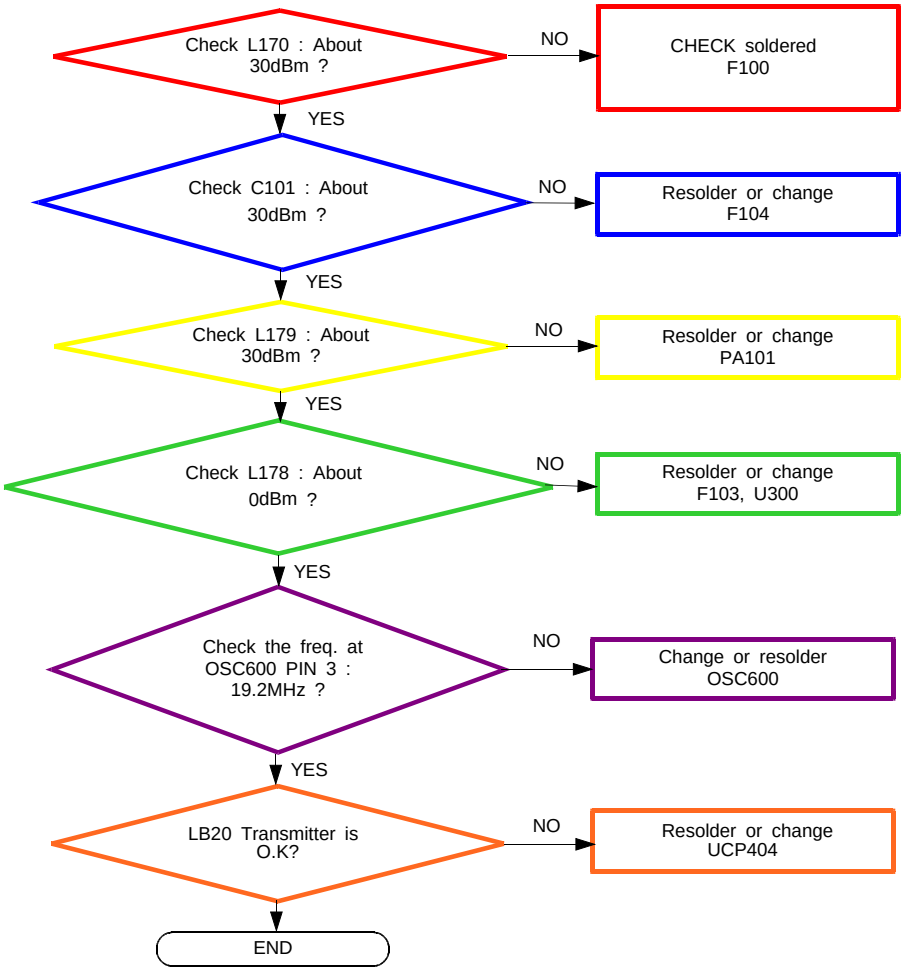
8-3-36. LTE B20 TX

CONTINUOUS TX ON CONDITION
TX POWER IDX1 APPLIED
LTE B20 CH : 24300
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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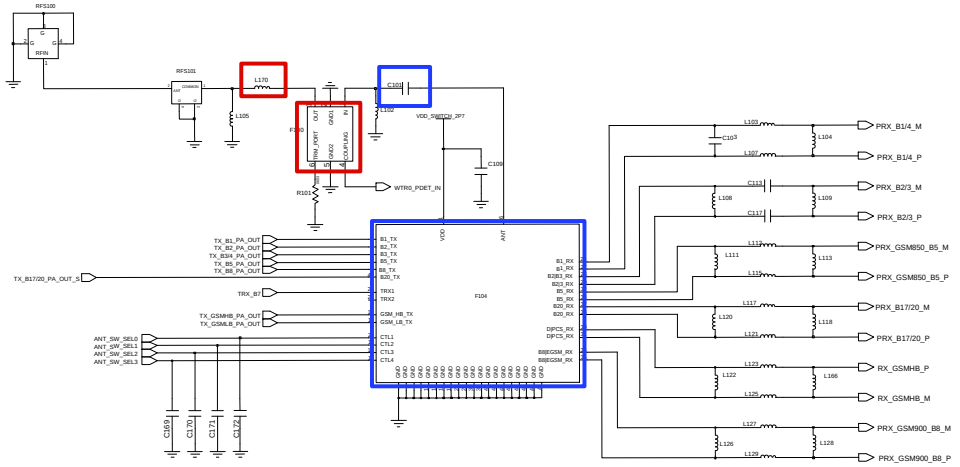

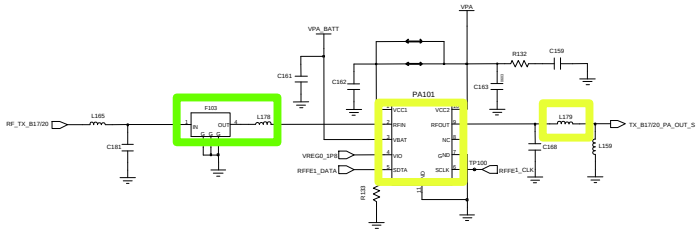

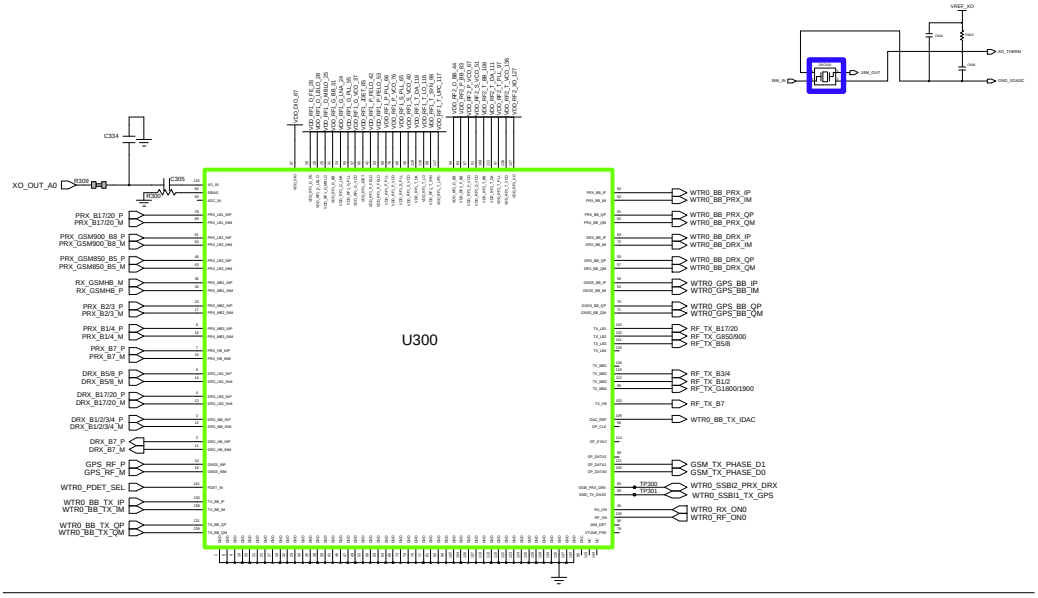

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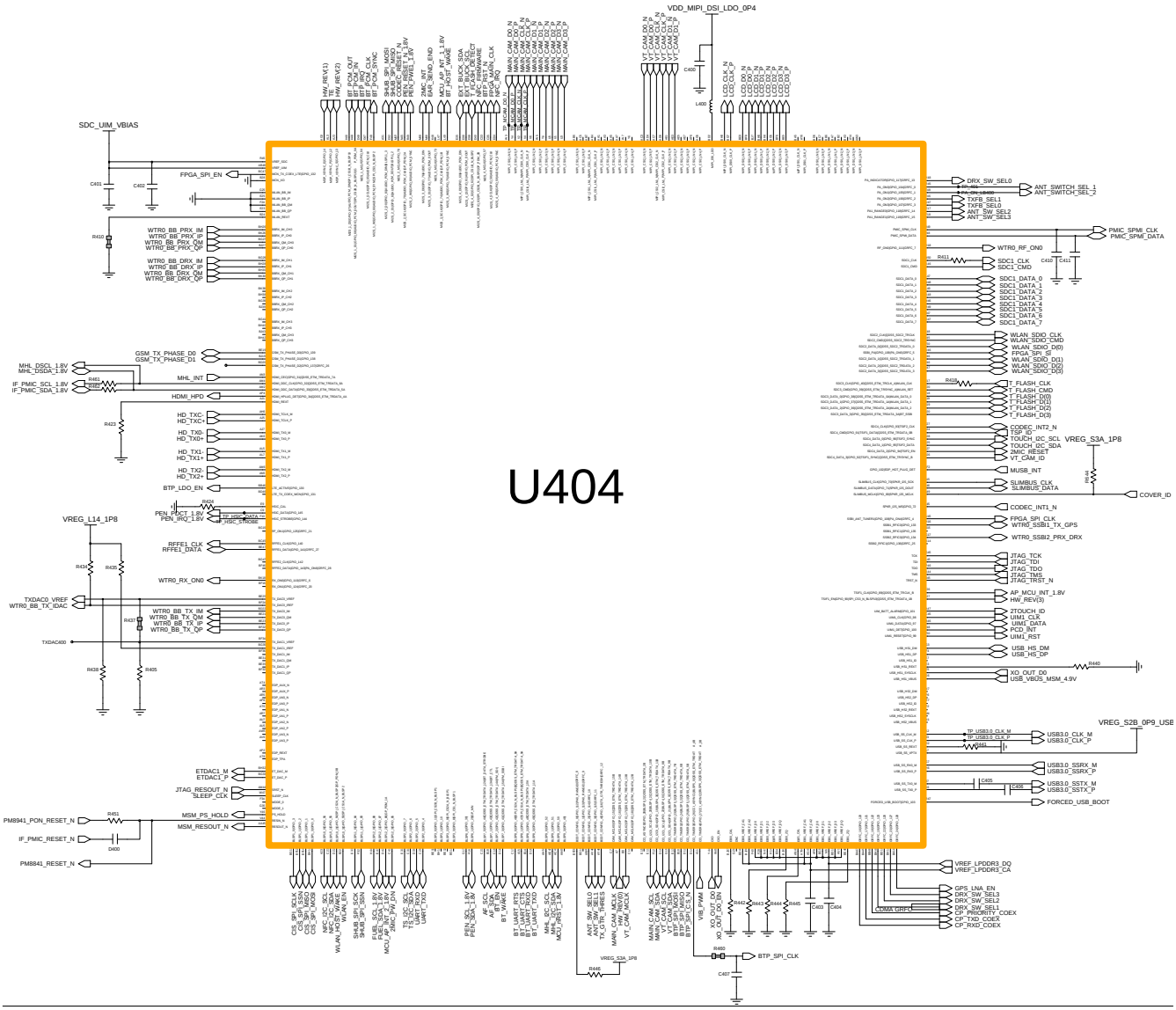

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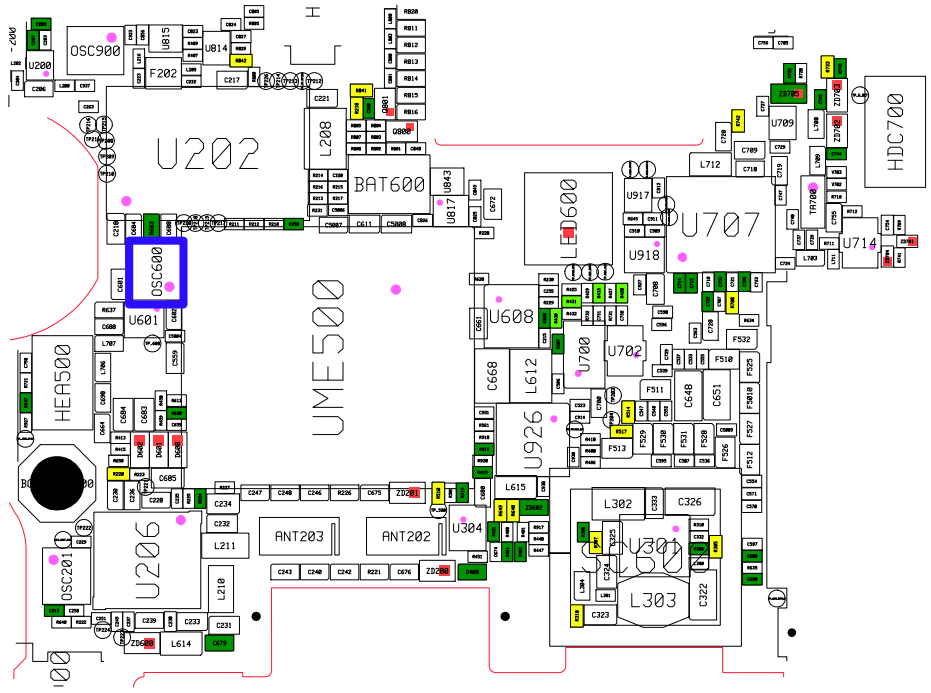

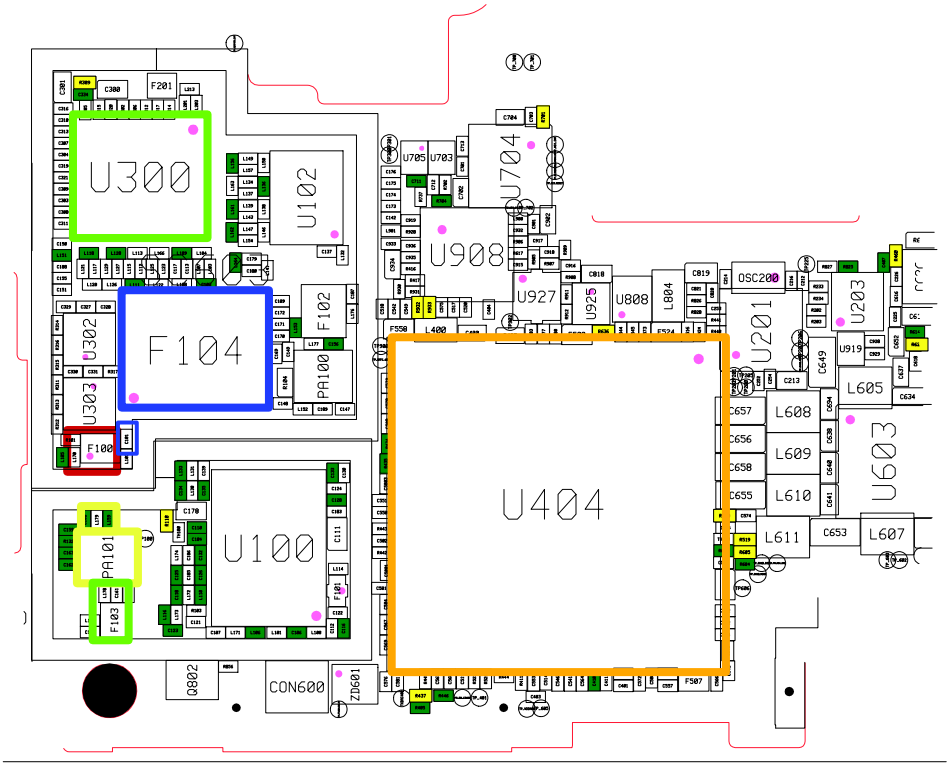

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